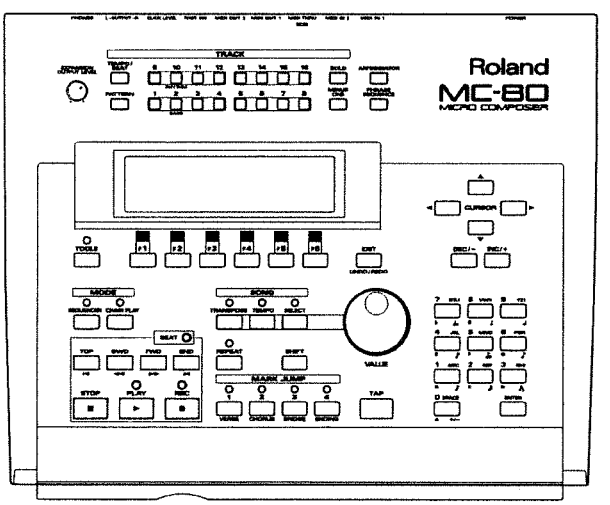
Roland

MC-80
MC-80EX
MICRO COMPOSER

OWNER'S MANUAL

Before using this unit, carefully read the sections entitled: "IMPORTANT SAFETY INSTRUCTIONS" (page 2), "USING THE UNIT SAFELY" (page 3), and "IMPORTANT NOTES" (pages 11 and 12). These sections provide important information concerning the proper operation of the unit. Additionally, in order to feel assured that you have gained a good grasp of every feature provided by your new unit, Quick Start and Owner's Manual should be read in its entirety.
The manuals should be saved and kept on hand as a convenient reference.



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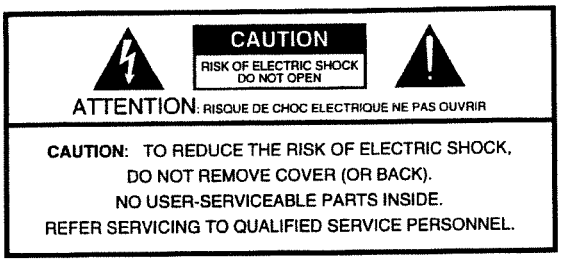
CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
ATTENTION: RISQUE DE CHOC ELECTRIQUE NE PAS OUVRIR
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

INSTRUCTIONS PERTAINING TO A RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS.

IMPORTANT SAFETY INSTRUCTIONS
SAVE THESE INSTRUCTIONS

WARNING - When using electric products, basic precautions should always be followed, including the following:

1. Read all the instructions before using the product.
2. Do not use this product near water — for example, near a bathtub, washbowl, kitchen sink, in a wet basement, or near a swimming pool, or the like.
3. This product should be used only with a cart or stand that is recommended by the manufacturer.
4. This product, either alone or in combination with an amplifier and headphones or speakers, may be capable of producing sound levels that could cause permanent hearing loss. Do not operate for a long period of time at a high volume level or at a level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should consult an audiologist.
5. The product should be located so that its location or position does not interfere with its proper ventilation.
6. The product should be located away from heat sources such as radiators, heat registers, or other products that produce heat.
7. The product should be connected to a power supply only of the type described in the operating instructions or as marked on the product.
8. The power-supply cord of the product should be unplugged from the outlet when left unused for a long period of time.
9. Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
10. The product should be serviced by qualified service personnel when:
    A. The power-supply cord or the plug has been damaged; or
    B. Objects have fallen, or liquid has been spilled into the product; or
    C. The product has been exposed to rain; or
    D. The product does not appear to operate normally or exhibits a marked change in performance; or
    E. The product has been dropped, or the enclosure damaged.
11. Do not attempt to service the product beyond that described in the user-maintenance instructions. All other servicing should be referred to qualified service personnel.

For the USA

GROUNDING INSTRUCTIONS

This product must be grounded. If it should malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock.

This product is equipped with a cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.

DANGER: Improper connection of the equipment-grounding conductor can result in a risk of electric shock. Check with a qualified electrician or serviceman if you are in doubt as to whether the product is properly grounded.
Do not modify the plug provided with the product — if it will not fit the outlet, have a proper outlet installed by a qualified electrician.

For the U.K.

WARNING: THIS APPARATUS MUST BE EARTHED
IMPORTANT: THE WIRES IN THIS MAINS LEAD ARE COLOURED IN ACCORDANCE WITH THE FOLLOWING CODE.
GREEN-AND-YELLOW: EARTH, BLUE: NEUTRAL, BROWN: LIVE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured GREEN-AND-YELLOW must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol ⏚ or coloured GREEN or GREEN-AND-YELLOW.

The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLACK.

The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

The product which is equipped with a THREE WIRE GROUNDING TYPE LINE PLUG must be grounded.

USING THE UNIT SAFELY

INSTRUCTIONS FOR THE PREVENTION OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS

About ⚠WARNING and ⚠CAUTION Notices

⚠WARNING	Used for instructions intended to alert the user to the risk of death or severe injury should the unit be used improperly.
⚠CAUTION	Used for instructions intended to alert the user to the risk of injury or material damage should the unit be used improperly. * Material damage refers to damage or other adverse effects caused with respect to the home and all its furnishings, as well to domestic animals or pets.

About the Symbols

⚠	The △ symbol alerts the user to important instructions or warnings.The specific meaning of the symbol is determined by the design contained within the triangle. In the case of the symbol at left, it is used for general cautions, warnings, or alerts to danger.
⊘	The ⊘ symbol alerts the user to items that must never be carried out (are forbidden). The specific thing that must not be done is indicated by the design contained within the circle. In the case of the symbol at left, it means that the unit must never be disassembled.
●	The ● symbol alerts the user to things that must be carried out. The specific thing that must be done is indicated by the design contained within the circle. In the case of the symbol at left, it means that the power-cord plug must be unplugged from the outlet.

ALWAYS OBSERVE THE FOLLOWING

⚠WARNING

- Before using this unit, make sure to read the instructions below, and the Owner's Manual.
- Do not open or perform any internal modifications on the unit. (The only exception would be where this manual provides specific instructions which should be followed in order to put in place user-installable options; see p. 111.)
- Make sure you always have the unit placed so it is level and sure to remain stable. Never place it on stands that could wobble, or on inclined surfaces.
- Avoid damaging the power cord. Do not bend it excessively, step on it, place heavy objects on it, etc. A damaged cord can easily become a shock or fire hazard. Never use a power cord after it has been damaged.
- In households with small children, an adult should provide supervision until the child is capable of following all the rules essential for the safe operation of the unit.
- Protect the unit from strong impact. (Do not drop it!)
- Do not force the unit's power-supply cord to share an outlet with an unreasonable number of other devices. Be especially careful when using extension cords—the total power used by all devices you have connected to the extension cord's outlet must never exceed the power rating (watts/amperes) for the extension cord. Excessive loads can cause the insulation on the cord to heat up and eventually melt through.

⚠WARNING

- Before using the unit in a foreign country, consult with your retailer, the nearest Roland Service Center, or an authorized Roland distributor, as listed on the "Information" page.
- Always turn the unit off and unplug the power cord before attempting installation of the circuit board (VE-GS Pro; p. 107).

⚠CAUTION

- Always grasp only the plug on the power-supply cord when plugging into, or unplugging from, an outlet or this unit.
- Try to prevent cords and cables from becoming entangled. Also, all cords and cables should be placed so they are out of the reach of children.
- Never climb on top of, nor place heavy objects on the unit.
- Never handle the power cord or its plugs with wet hands when plugging into, or unplugging from, an outlet or this unit.
- Before moving the unit, disconnect the power plug from the outlet, and pull out all cords from external devices.
- Before cleaning the unit, turn off the power and unplug the power cord from the outlet (p. 107).
- Whenever you suspect the possibility of lightning in your area, pull the plug on the power cord out of the outlet.
- Install only the specified circuit board(s) (VE-GS Pro). Remove only the specified screws (p. 112).

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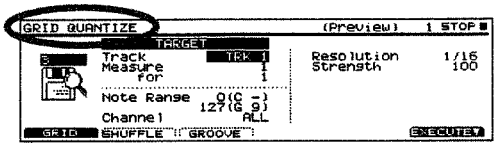
Conventions Used in This Manual

Button names are enclosed in square brackets. (Example: [PLAY])

Screen names are enclosed in quotation marks (e.g., "xxx Screen"). They appear in the upper left of the display.

When a certain screen is referred to in this manual, check the upper middle part of the display. The screen name should appear there.

Screen name



Important Notes

In addition to the items listed under "IMPORTANT SAFETY INSTRUCTIONS" and "USING THE UNIT SAFELY" on pages 2 and 3, please read and observe the following:

Power Supply

• Do not use this unit on the same power circuit with any device that will generate line noise (such as an electric motor or variable lighting system).

• Before connecting this unit to other devices, turn off the power to all units. This will help prevent malfunctions and/or damage to speakers or other devices.

Placement

• Using the unit near power amplifiers (or other equipment containing large power transformers) may induce hum. To alleviate the problem, change the orientation of this unit; or move it farther away from the source of interference.

• This device may interfere with radio and television reception. Do not use this device in the vicinity of such receivers.

• Observe the following when using the unit's floppy disk drive. For further details, refer to "Before Using Floppy Disks".

  • Do not place the unit near devices that produce a strong magnetic field (e.g., loudspeakers).

  • Install the unit on a solid, level surface.

  • Do not move the unit or subject it to vibration while the drive is operating.

• Do not expose the unit to direct sunlight, place it near devices that radiate heat, leave it inside an enclosed vehicle, or otherwise subject it to temperature extremes. Also, do not allow lighting devices that normally are used while their light source is very close to the unit (such as a piano light), or powerful spotlights to shine upon the same area of the unit for extended periods of time. Excessive heat can deform or discolor the unit.

• To avoid possible breakdown, do not use the unit in a wet area, such as an area exposed to rain or other moisture.

• Do not allow rubber, vinyl, or similar materials to remain on the piano for long periods of time. Such objects can discolor or otherwise harmfully affect the finish.

• Do not put anything that contains water (e.g., flower vases) on the piano. Also, avoid the use of insecticides, perfumes, alcohol, nail polish, spray cans, etc., near the unit. Swiftly wipe away any liquid that spills on the unit using a dry, soft cloth.

Maintenance

• To clean the unit, use a dry, soft cloth; or one that is slightly dampened. Try to wipe the entire surface using an equal amount of strength, moving the cloth along with the grain of the wood. Rubbing too hard in the same area can damage the finish.

• Never use benzine, thinners, alcohol or solvents of any kind, to avoid the possibility of discoloration and/or deformation.

Additional Precautions

• Unfortunately, it may be impossible to restore the contents of data that was stored on a floppy/Zip disk, hard disk, in another MIDI device (e.g., a sequencer), and in the unit's memory once it has been lost. Roland Corporation assumes no liability concerning such loss of data.

• Use a reasonable amount of care when using the unit's buttons, sliders, or other controls; and when using its jacks and connectors. Rough handling can lead to malfunctions.

• Never strike or apply strong pressure to the display.

• When connecting / disconnecting all cables, grasp the connector itself—never pull on the cable. This way you will avoid causing shorts, or damage to the cable's internal elements.

• A small amount of heat will radiate from the unit during normal operation.

• To avoid disturbing your neighbors, try to keep the unit's volume at reasonable levels. You may prefer to use headphones, so you do not need to be concerned about those around you (especially when it is late at night).

• When you need to transport the unit, package it in the box (including padding) that it came in, if possible. Otherwise, you will need to use equivalent packaging materials.

Before Using Floppy Disks/Zip Disks

Handling the Floppy Disk Drive/Zip Disk Drive

• Install the unit on a solid, level surface in an area free from vibration.

• Avoid using the unit immediately after it has been moved to a location with a level of humidity that is greatly different than its former location. Rapid changes in the environment can cause condensation to form inside the drive, which will adversely affect the operation of the drive and/or damage floppy/Zip disks. When the unit has been moved, allow it to become accustomed to the new environment (allow a few hours) before operating it.

• To insert a disk, push it gently but firmly into the drive—it will click into place. To remove a disk, press the EJECT button firmly. Do not use excessive force to remove a disk which is lodged in the drive.
• The indicator light for the disk drive lights up at full brightness when reading or writing data, and lights up at half brightness at other times. Don't try to eject the disk while reading or writing is in progress (that is, when the indicator light is lit up at full brightness). Attempting to do so may damage the magnetic surface of the disk, rendering it unusable.
• Remove any disk from the drive before powering up or down.
• To prevent damage to the disk drive's heads, always try to hold the floppy/Zip disk in a level position (not tilted in any direction) while inserting it into the drive. Push it in firmly, but gently. Never use excessive force.
• To avoid the risk of malfunction and/or damage, insert only floppy/Zip disks into the disk drive. Never insert any other type of disk. Avoid getting paper clips, coins, or any other foreign objects inside the drive.

Handling Floppy Disks/Zip Disks

• Floppy/Zip disks contain a plastic disk with a thin coating of magnetic storage medium. Microscopic precision is required to enable storage of large amounts of data on such a small surface area. To preserve their integrity, please observe the following when handling floppy/Zip disks:

• Never touch the magnetic medium inside the disk.

• Do not use or store floppy/Zip disks in dirty or dusty areas.

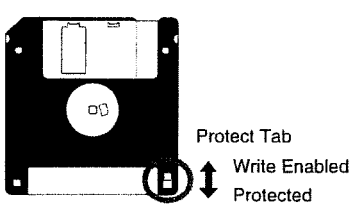
• Do not subject floppy/Zip disks to temperature extremes (e.g., direct sunlight in an enclosed vehicle).

Recommended temperature range:

Floppy: 10 to 50° C (50 to 122° F)
Zip: -22 to 51° C (-7.6 to 123.8° F)

• Do not expose floppy/Zip disks to strong magnetic fields, such as those generated by loudspeakers.

• Floppy disks have a "write protect" tab which can protect the disk from accidental erasure. It is recommended that the tab be kept in the PROTECT position, and moved to the WRITE position only when you wish to write new data onto the disk.



• The identification label should be firmly affixed to the disk. Should the label come loose while the disk is in the drive, it may be difficult to remove the disk.
• Store all disks in a safe place to avoid damaging them, and to protect them from dust, dirt, and other hazards. By using a dirty or dust-ridden disk, you risk damaging the disk, as well as causing the disk drive to malfunction.

About the Panel Operations

On the MC-80, buttons are pressed to switch between screens, and carry out a variety of operations.
Most operations are begun from either the "SONG PLAY" screen or the "QUICK PLAY" screen.
As long as you know how to get back to these two screens, then even if you become lost or unable to understand how to carry out a certain operation, you can start the procedure over from the beginning.
Two methods used to accomplish this are described below.

1.Returning to Previous Screens One at a Time

You can return to previous screens (reversing the order you took to arrive where you are) by pressing the EXIT button.
This is convenient for viewing the different screens that have been opened during the operation.

2.Returning to the "SONG PLAY" or "QUICK PLAY" Screen

You can return directly to the "SONG PLAY" screen or "QUICK PLAY" screen by pressing the SEQUENCER button.

Features of the MC-80

Packed with Features

Quick Play

Songs recorded on the disk can be played back immediately, with no loading process necessary.
(Except for Super-MRC (MC-50mkII, etc.))

File Sort Function

Because of the huge numbers of files that can be stored on Zip disks and hard disks, the MC-80 includes a function allowing you to change the way file names and song names are listed.

Tap Tempo

This lets you input a tempo by tapping a button.

Two Independent MIDI OUT Channels

You can also control to 32 MIDI channels simultaneously.

Compatibility to Various Song Files

The MC-80 can load and use song files from the Roland XP-80/60/50 series and MC-50/300/500 series models, and Standard MIDI File (SMF) Format 0 and Format 1 song files. Additionally, the MC-80 can save songs in SMF Format 0 and Format 1 as well.

Synchronize with "Roland VS Series" Hard Disk Recorders

You can connect the MC-80 to Roland's VS Series hard disk recorders with a MIDI cable to synchronize operation of the devices. This makes it possible to get ensemble performances using vocals and live performances from the VS Series with songs created on the MC-80.

Powerful Playback Functions

Continuous Playback of Songs (Chain Play)

This works like a CD player's program function, allowing you to have a number of songs played back continuously in the order you choose.

Mark Jump

Use this function to place markers within songs, and then jump to those locations at the press of a button. This function features a dedicated button, for fast operation during playback and recording.

Solo/Minus One

This lets you easily select just one track to be played, or mute a certain track with the press of dedicated buttons.

Realtime Transpose

The MC-80 also includes a transpose function that lets you change the key of the entire song, even while you are playing.

Repeat Play

You can have a selected range of a song played back repeatedly. You can press the pedal switch to bypass the repeating segment and play back the measures after it, jump to the repeating section during playback at a different place in the song, and enjoy a wide variety of other playback options.

Support Functions for Powerful Stage Performances

Phrase Sequence

You can play patterns whenever you need them during live performances with the press of a single key.

Arpeggiator

Perform arpeggios just by playing chords on the keyboard.

Recording and Editing Functions Help You Perform with Confidence

High-Resolution Clock (480:1)

The MC-80 clock features an extremely high resolution, with each beat divided into 480 increments, allowing precise recording and editing of the subtle nuances of a performance.

Nonstop Loop Recording

You can change the track to which performance data is recorded while the recording is in progress. During Loop Recording, this also lets you record to multiple tracks without stopping.

Quantize

The MC-80 features three Quantize functions: Grid, Shuffle, and Group.

Undo/Redo

With this feature, you can undo the immediately preceding step in recording, Track Edit, or Microscope Edit operations, and then if desired, redo the same step.

Exceptional Expandability

Accepts Installation of a Voice Expansion Board

By adding the optional VE-GS Pro Voice Expansion Board, you can obtain sound generation capabilities (64 voices, 32 parts) equivalent to the SC-88 Pro, Roland's GS-compatible sound module.

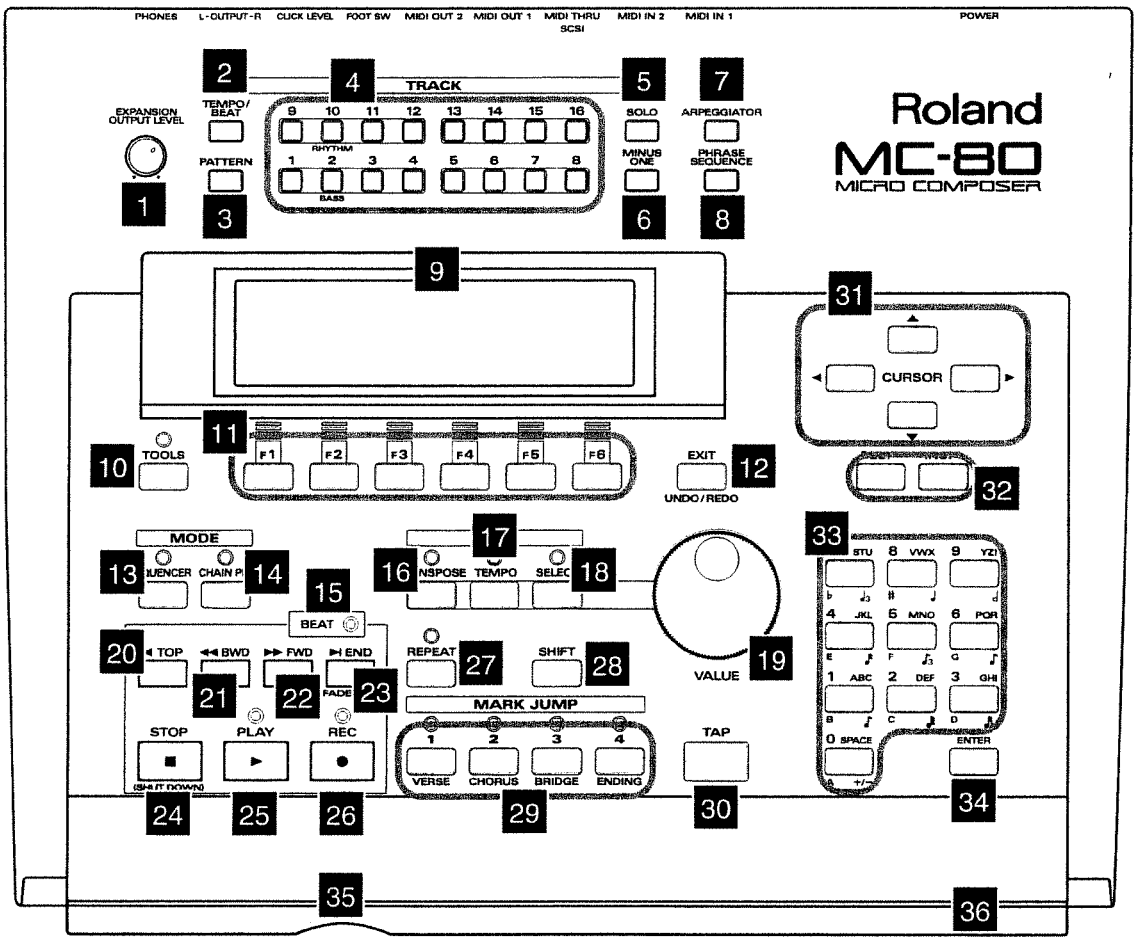
Expanded Storage with 2.5" Hard Disk Drive or Zip Drive

An optional hard disk drive (HDP-88 Series) or Zip drive (ZIP-EXT-2S) can be installed internally, allowing storage of a huge number of files. In addition, optional external Zip drives can be connected (when equipped with the optional SCSI Board). That way, you can work with an even greater number of files, and you can make back ups of the internal hard disk.

* *The MC-80 is able to use hard disks regardless of their capacity, but a maximum of 2.1 GB of any hard disk can be actually used.*

Names and Functions

Top Panel



1. EXPANSION OUTPUT LEVEL Knob

This adjusts the sound generator volume level when the optional VE-GS Pro voice Expansion Board is installed (Quick Start p. 4).

2. [TEMPO/BEAT] Button

Use this to turn on and off the track to which tempo changes are recorded (the Tempo track) when recording. During editing, this is used to switch between the Tempo track and the Beat track (the track to which beat changes are recorded).

* Immediately after the MC-80 is started up, this button will be lit. (This is because by default, tempo and beat data are included at the beginning of the song.)

3. [PATTERN] Button

Press this when playing back, recording, or editing patterns (p. 49, 50).

4. TRACK Buttons [1]-[16]

These are used to switch between recording and mute on each of the channels. This is used for selecting the track to be recorded during recording. (p. 33, 34).

5. [SOLO] Button

Press to use the Solo function (p. 34).

6. [MINUS ONE] Button

Press to use the Minus One function (p. 34).

7. [ARPEGGIATOR] Button

This button turns the Arpeggiator on and off (p. 54).

8. [PHRASE SEQUENCE] Button

This turns the Phrase Sequence function on and off, and is also used in changing the settings parameters (P. 51).

9. [DISPLAY]

This area shows song and pattern names, and setting information during editing using graphics and text (p. 107).

10. [TOOLS] Button

Help, MIDI-related functions, the MC-80's overall settings, disk-related functions, and other information is gathered in this section.

11. [F1]-[F6] Buttons
Pressing these buttons' changes functions depending on the screen display.
The names of the functions corresponding to the buttons appear in the lower part of the display screen(P. 20).

12. [EXIT (UNDO/REDO)] Button
Press once, to return to the previous stage screen. By pressing the button one or more times, finally you can return to the "sequencer" screen.
Additionally, pressing this button while holding down shift changes it to the Undo function for recording and editing (p. 21).

13. [SEQUENCER] Button
Press this button to play back, record, and edit songs (p. 28).

14. [CHAIN PLAY] Button
This sets the Chain Play function (a function that allows you to change the playback order of the songs however you like) (p. 36).

15. [BEAT] Indicator
Blinks on and off in time with the rhythm of the song (p. 63).

16. [TRANSPOSE] Button
Press this button when making settings for the Realtime Transpose function (the function that allows you to change the key of the entire song) (p. 31).

17. [TEMPO] Button
Press this button to change the tempo (p. 30).

18. [SELECT] Button
Press this when selecting songs or Chain Play files (p. 28).

19. [VALUE] Dial
This dial performs the same function as the INC/+ button and DEC/- button. Use this dial when you want to make big changes in song numbers or settings values all at once (p. 20).

20. [TOP] Button
Press this to go to the beginning of a song or pattern (p. 27).

21. [BWD] Button
Press this button when you want to go to previous measures in a song or pattern. Press once to go back one measure; hold it down to go back continuously (p. 27).

22. [FWD] Button
Press this button when you want to advance to later measures in a song or pattern. Press once to advance one measure; hold it down to advance continuously (p. 27).

23. [END] Button
Press this button to go to the end of the song or pattern (p. 27).

24. [STOP] Button
Press this to stop the song or pattern during playback or recording (p. 27).

25. [PLAY] Button
Press this button to play back the song or pattern (p. 27).

26. [REC] Button
Press this to record a song or pattern (p. 27).

27. [REPEAT] Button
Press this button when using the Repeat function (p. 32).

28. [SHIFT] Button
By holding down this button while pressing other buttons, you can call up different functions (p. 145).

29. MARK JUMP [1]-[4] Buttons
Press these buttons when using the Marker function (p. 34).

30. [TAP] Button
Rhythmically tap this button to specify the rhythm of a song (p. 30).

31. [CURSOR] Buttons
Press these buttons to move the cursor within the screen. Use these four buttons to move the cursor up, down, right, and left (p. 20).

32. [DEC/-] Button, [INC/+] Button
Use these buttons to select songs and to change settings values when editing. Press the [INC/+] button to increase the selected value, and press the [DEC/-] button to make decreases (p. 21).

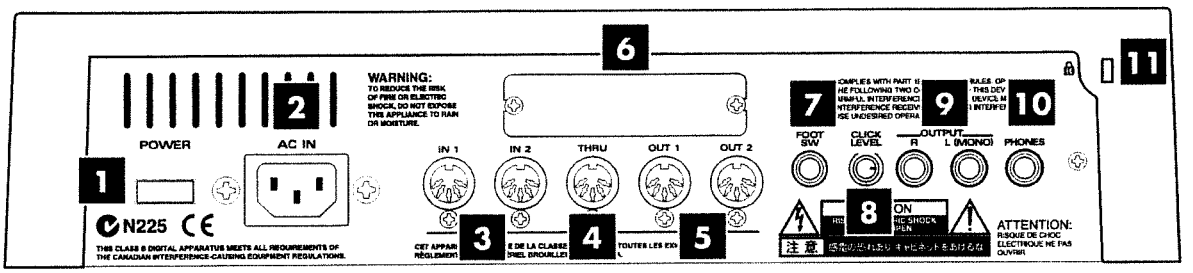
33. Numeric Keys
Use these buttons to select songs and to change settings values when editing. Pressing the ENTER button after pressing these keys inputs the value (p. 21).

34. [ENTER] Button
This button inputs a value selected with the numeric keys (p. 21).

35. Floppy disk drive
Insert a floppy disk here for use. (p. 90)

36. Drive bay
A Zip drive (ZIP-EXT-2S, sold separately) or hard disk (HDP-88 series, sold separately) can be installed here. (p. 90)

Rear Panel



1. [POWER] Switch

This switches the power to the MC-80 on and off.

* *Always be sure to carry out the shut down procedure (p. 106) before switching off the power.*

2. AC IN

Connect the AC cord here (Quick Start p. 2).

3. MIDI IN 1/ IN 2 Connectors

Use these connectors to connect external MIDI keyboards, and when receiving settings data from external sound modules.

Select either of the connectors for use (p. 23).

4. MIDI THRU Connector

Information received through the MIDI IN connector is output here with no changes made.

5. MIDI OUT 1/ OUT 2 Connectors

Connect external sound modules, samplers, hard disk recorders, or similar devices here (p. 23).

6. SCSI Connector Slot

Use this slot when installing the optional SCSI interface (VS4S-1) (p. 105).

7. FOOT SW Connector

If using a pedal switch such as the optional DP-2, connect the switch here (p. 108).

8. CLICK LEVEL Knob

This adjusts the volume of the click sound.

9. OUTPUT (R/L (MONO)) Connector

Use this connector when outputting signals from the optional VE-GS Pro Voice Expansion Board to an external mixer or other device (p. 22).

10. PHONES Jack

Connect your headphones to this jack when listening to sounds from the optional VE-GS Pro Voice Expansion Board.

Additionally, this is where you connect headphones when you want to listen to the click sound from the MC-80 itself.

* *Audio signals are output from the OUTPUT (R/L (MONO)) connector even when the headphones are plugged into this jack.*

11. SECURITY LOCK

You can attach a commercially available security cable (Kensington or other) here.

The security lock is compatible with the Kensington Micro Saver System.

MicroSaver Security Slot ( )

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Chapter 1. Outline of the MC-80

This chapter introduces the fundamental concepts, operational procedures, and functions that are common to the MC-80 as a whole. First-time users of sequencers will especially need to take the time to read this chapter, so the content of the Owner's Manual will be easier to understand.

Overview of the MC-80

The MC-80 is a professional sequencer that consolidates the features found in previous models.
Its various functions can be divided broadly into the following categories:

- **Sequencer Functions**

This section includes playback, recording, editing, and other operations that comprise a sequencer's most basic functions.

- **Helpful Accompaniment Functions (Phrase Sequence, Arpeggiator)**

You can perform impossibly fast phrases in ordinary instrumental performances, or get ensemble performances, all with the press of a single key.

- **High-Capacity Storage (Zip Drive, Hard Disk Drive, and Others)**

In addition to the standard floppy disk drive, the MC-80 allows you to expand with a Zip drive *1, or hard disk drive *2. Additionally, you can also expand with an external Zip drive (with a SCSI Interface board VS4S-1 (sold separately) installed).

- **Expanded Functions (Internal Sound generator (VE-GS Pro), External Instrument Expansions)**

By using MIDI, you can add an external controller (such as a keyboard, MIDI guitar, or MIDI percussion), or external sound generator. What's more, since you can also synchronize operation of the MC-80 with hard disk recorders like the Roland VS Series, you can create the newest recording environment using MIDI and mainstream audio.

**1 100MB: Equivalent to approximately seventy 2HD floppy disks.*

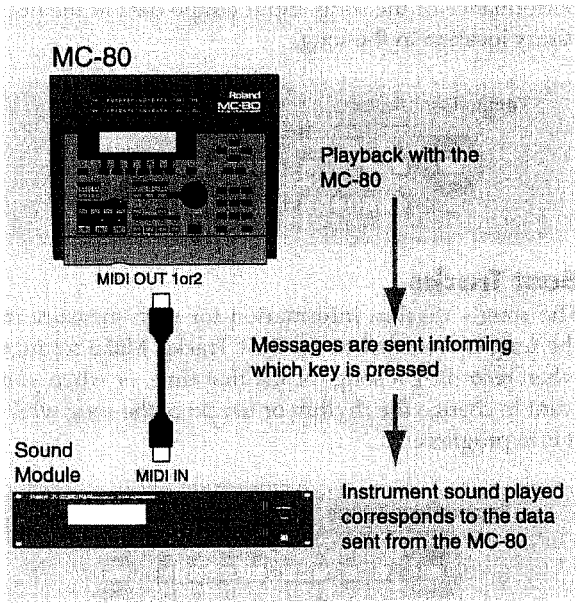
**2 1–2.1 GB: Equivalent to approximately 730–1460 2HD floppy disks.*

** The MC-80 is able to use hard disks regardless of their capacity, but a maximum of 2.1 GB of any hard disk can be actually used.*

How the Sequencer is Arranged

What is a Sequencer ?

Sequencers are devices that record operations from performances and from different controllers such as MIDI-compatible keyboards, and stores them as MIDI messages. In addition, playing the sequencer means sending recorded MIDI messages to MIDI devices (such as sound modules, keyboards equipped with sound generation) to be played by these devices. Since, unlike a tape recorder, the MC-80 does not record the sound as it is played in performance, it offers several advantages—there is no degradation in sound quality, the tempo can be changed without affecting the pitch, and detailed editing can be carried out freely after the recording is completed.

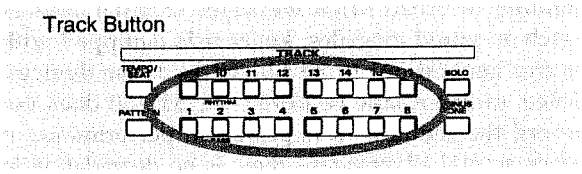

MC-80
Playback with the MC-80
MIDI OUT 1or2
Messages are sent informing which key is pressed
Sound Module
MIDI IN
Instrument sound played corresponds to the data sent from the MC-80

What is a Track ?

A track is where song performance data, tempos, and rhythm information can be recorded.

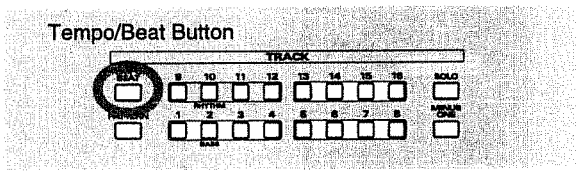
Phrase Tracks 1–16

Phrase tracks are the tracks on which mainly instrumental performances are recorded. There are sixteen of these tracks. Each of these sixteen tracks has its own track button.



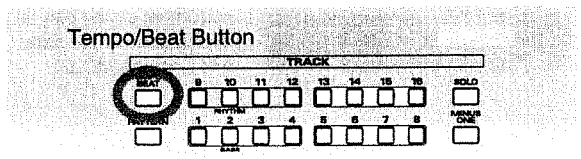
Tempo Tracks

Tempo changes in songs are recorded to the Tempo Tracks. When you want the tempo to change during performance of the song, input tempo data at the necessary location in the song.



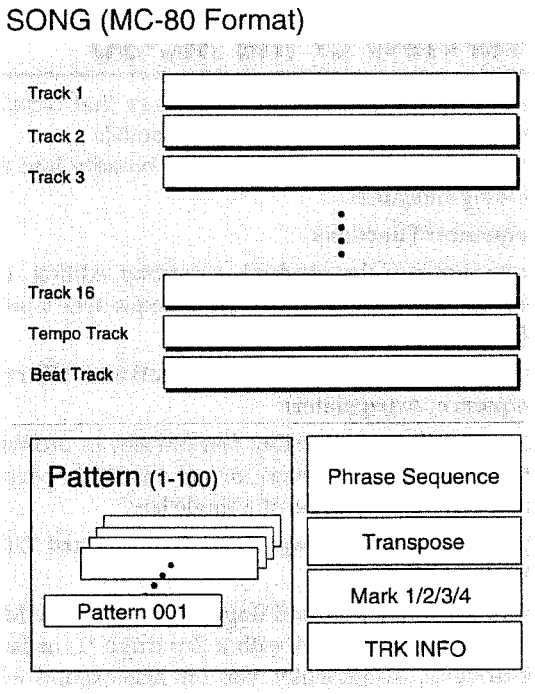
Beat Tracks

The song's rhythm information for each measure in the song is recorded to the Beat Tracks. Make settings when recording a song for the first time, or when you want to change the rhythm or tempo of the song while it is in progress.



What is a Song?

The performance data for one song is referred to as a Song. It comprises the information on the Phrase Tracks 1–16, Tempo Tracks, Beat Tracks, and Patterns in one overall group.



•When playing back songs, Tracks 1-16, the Tempo Track, and the Beat Track are used.
•Patterns are independent of any of the above tracks. Patterns can be used by pasting them Tracks 1-16.

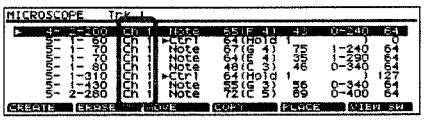
* *In addition to the above, Marker settings (p. 34), Repeat settings (p. 32), Track Mute settings (p. 33), and Patterns (P. 49) are also stored. When a song is saved as an MC-80 song file, these are also saved within the song file. However, when a song is saved as a Standard MIDI File, the above settings are lost.*

What is a MIDI Channel?

Multiple kinds of performance data are exchanged between MIDI devices. MIDI channels allow you to keep each performance separate.

When the MC-80 was shipped, MIDI data was set to be sent and received with Track 1 matched to MIDI Channel 1, Track 2 to Channel 2, and so on. Accordingly, recording the piano part to Track 1 (Channel 1), the bass to Track 2 (Channel 2), and so on, you can record easily and simply.

MIDI Channel



* *You can also change the operations so that they match those of the original Roland MC Series (p. 40).*

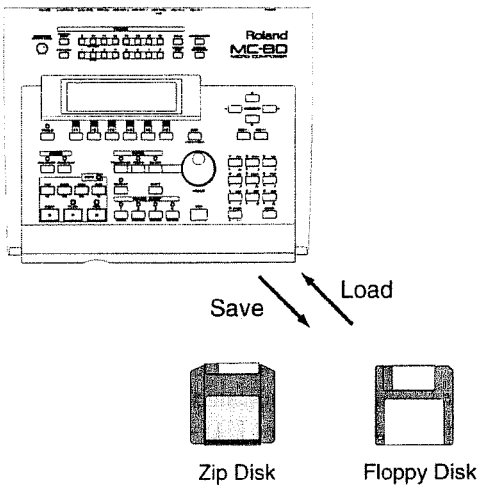
By changing the settings, you can have the performance data on the sixteen MIDI channels recorded to each track. They are the same as those for the MC-50, MC-500, and MC-300 Series and other devices, so users of the original MC series can play the MC-80 with the feel of those original models.

The MC-80 and Disks

When recording with the MC-80, the recorded data is stored within the MC-80 itself. When editing songs that have been saved on floppy disks or other storage media, they need to first be loaded into the MC-80, then they can be edited.

Recording and editing operations such as this are done on the MC-80, and when completed, the results should be saved on disk.

Recording/Editing



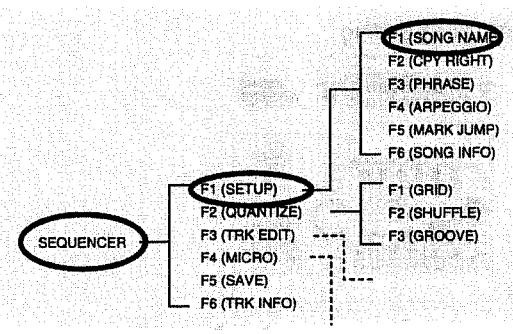
* *Never remove the disk while the access light on the front panel of the disk drive is flashing.*

Basic Panel Operations

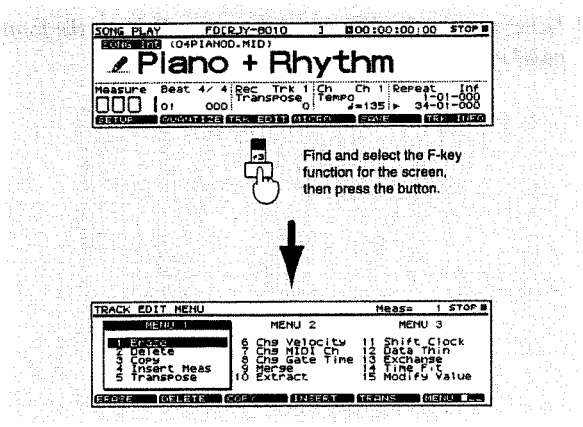
Selecting Functions (Switching Screens)

The MC-80's screens are organized so they are grouped by function, making operation easier to understand.

For example, the screen for the SONG NAME function is situated as shown below.

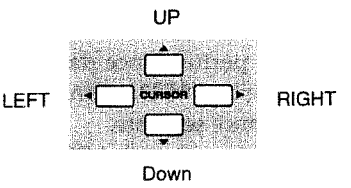


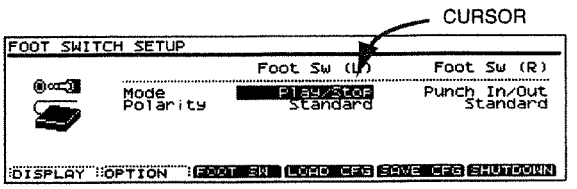
When you press the [SEQUENCER] button first, the sequencer's basic screen (the SONG PLAY screen) appears. Then the names of even more detailed sequencer functions are indicated in the display above each of the function buttons [F1]—[F6], allowing selection of these functions.



Changing Settings

A number of different parameters are displayed in a single screen. After moving the cursor (shown in the figure below) to the parameter value you want to change, use the [VALUE] dial or other means to change the value.





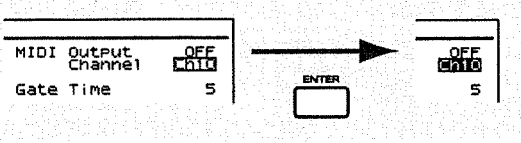
[CURSOR UP]: This moves the cursor up.
[CURSOR DOWN]: This moves the cursor down.
[CURSOR LEFT]: This moves the cursor to the left.
[CURSOR RIGHT]: This moves the cursor to the right.

Functions for setting a value

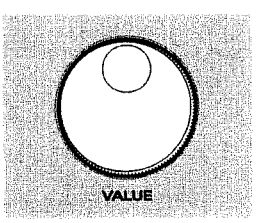
You can use either the [VALUE] dial, the [INC] button, the [DEC] button, or the [0]–[9] buttons (numeric keys) to change the settings values.

Although all of these serve the same function of changing values, each has special qualities that make it more suitable for particular uses, as described below.

* *When you use the numeric keys to input a numerical value, the value at the cursor may be enclosed in a frame instead of being highlighted. In this case, press [ENTER] to set the value, and return to the regular display.*

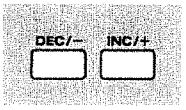


[VALUE] Dial



This is convenient for making large changes in values. Values increase as the dial is rotated to the right (clockwise) and decrease as the dial is rotated to the left (counterclockwise).

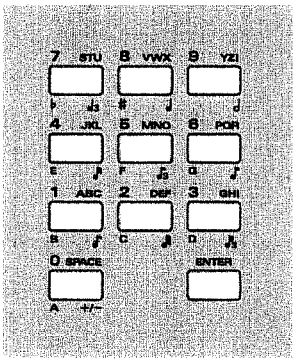
[INC] and [DEC] Buttons



These are convenient for changing values one increment at a time. Press the [INC/+] button to increase the selected value, and press the [DEC/-] button to decrease the value. To increase (or decrease) the values continuously, hold the button down.

* *When you want to make even larger changes in a value, hold down [INC] and press [DEC]. Conversely, you can hold down [DEC] and press [INC] to rapidly decrease the value.*

[0]–[9] Buttons (Numeric Keys)



These keys are convenient when you have an exact value you want to punch in.

The [0]–[9] buttons are referred to as numeric keys. With these buttons you can directly input numerical values. When values are changed with the numeric keys, the values in the cursor section are framed rather than highlighted when selected. Values are not yet input while in this state; press [ENTER] to confirm input of the value.

In addition, you can change the positive (+) and negative (-) signs before the numerals by holding down [SHIFT] and pressing [0].

<Examples of Input>

• When Inputting 38

Press [3] → press [8] → press [ENTER]

• When Inputting -60

Hold down [SHIFT] and press [0] → press [6] → press [0] → press [ENTER]

* *Values in some parameters are input without [ENTER] being pressed.*

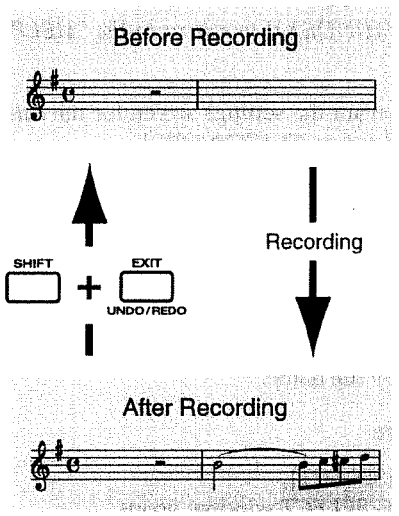
* *You can switch the sign in front of a numeral anytime until [ENTER] is pressed.*

Other Convenient Functions

Undo/Redo

When changing values, executing edit procedures, or recording, if you want to go back to the conditions existing in the step immediately prior to the change, hold down [SHIFT] and press [UNDO/REDO]. This operation is called "Undo."

If you then want to return conditions just before the undo was made, hold down [SHIFT] and press [UNDO/REDO] once more. This performs the process in reverse, and is called "Redo."



Help Function

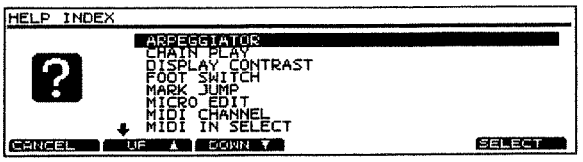
Help is a convenient function that allows you to rapidly find instructions related to the operation of the MC-80.

When you select a keyword for the procedure you want to carry out, the MC-80 immediately calls up an explanation of the function and its settings screen. For example, if you want to make a setting for a function that uses the footswitch, selecting "FOOTSWITCH" and press the button appears the relevant settings screen.

Procedure

1. Press [TOOLS], lighting the indicator, then press [F6 (HELP)].

The following screen appears in the display.



Press [F1 (CANCEL)] to return to the "SONG PLAY" or "QUICK PLAY" screen.

2. Press [F2 (UP)] or [F3 (DOWN)] to select the keyword.

3. Press [F6 (SELECT)], and an explanation of the function appears in the display.

* *Press [F1(INDEX)] to return to the "HELP INDEX" screen.*

4. If you want the settings screen for the function displayed, press [F6 (GO NOW)].

* *[F6 (GO NOW)] will not appear for items which have no setting page.*

File Sort Function

In the SONG SELECT window, you can change the order in which files are displayed, either by song name or by file name.

Procedure

1. Press [SELECT].
The SONG SELECT window opens.

2. Press [F2 (SORT)].
The order toggles between "by song name" and "by file name" each time this is pressed.

Panic Function

If for one reason or another the sound generator fails to stop playing, this feature sends Note Off and Hold Off MIDI messages to the sound generator.

Procedure

1. While holding down [SHIFT], press [TOP].
The messages are sent to the sound generator.

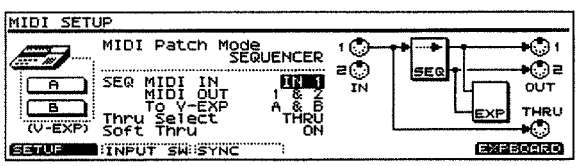
Chapter 2. Setting the MIDI Connectors and MIDI Channels

The MC-80 is equipped with two MIDI IN and MIDI OUT connectors. The following is an explanation of how to determine which connectors to use.
You can connect more than one MIDI controller (MIDI keyboard, MIDI guitar, MIDI percussion pad, and the like) to the MIDI IN connectors, then select which to use. More than one external sound generator can be connected to the MIDI OUT connectors, with each one able to handle sixteen MIDI channels (for a total of 32 channels).

* *The screen for VE-GS Pro is displayed in the following description as an example.*
* *This is one of the MIDI SETUP screen settings saved in the System Configuration File. For more detailed information, refer to p. 92 and 94.*
* *The TRACK INFO screen settings are saved along with the song when the song is saved.*
* *The TRACK INFO screen may indicate "Now Playing." In this case, the presence or absence of data for each track will be displayed when you stop song playback.*

Selecting the MIDI IN Connector

After connecting two keyboard or other MIDI controllers to MIDI IN1 or MIDI IN2, use the following procedure to select the MIDI IN connector you are going to use.



Procedure

1. Press [TOOLS], lighting the indicator, then press [F3 (MIDI)].

The "MIDI Setup" screen appears.

2. Move the cursor to MIDI IN on the screen.
3. Rotate the [VALUE] dial to select the connector.

Set either MIDI IN1 or MIDI IN2 by selecting "IN1" or "IN2."

4. Press [EXIT] to return to the previous screen.

* *The MIDI SETUP screen settings are saved in the System Configuration File (p. 92, 94).*

Selecting the MIDI OUT Connector/Internal Sound Generator

This setting allows you to determine whether the performances on each of the MC-80's tracks is output from the MIDI OUT connectors to be played by an external sound generator or if the sounds will be played by the MC-80's internal sound generator (VE-GS Pro).

* *If you have an internal sound generator (VE-GS Pro) installed, please see p. 112.*
* *The MC-80 is preset at the factory to play both an external sound generator and the internal sound generator (VE-GS Pro). If you want to change these settings, use the procedure described below.*

Setting the MC-80 to Play Only Through an External Sound Generator

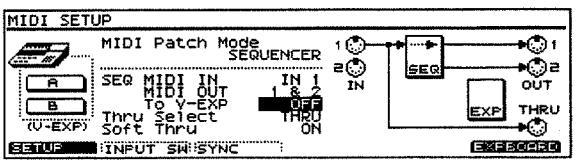
This sets the MC-80 to use an external sound generator for all MIDI channels, while the internal sound generator remains unused.

Procedure

First, enable both of the MIDI OUT connectors for use.

1. Press [TOOLS], lighting the indicator, then press [F3 (MIDI)].

This appears the "MIDI Setup" screen.

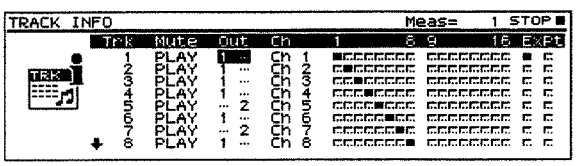


2. Set the MIDI OUT to "1&2" and the V-EXP OUT to "OFF."

Next, select the connector to be used by each track.

3. Load the song containing the data you want to set.
4. Press the [SEQUENCER] and [F6 (TRK INFO)], in that order.

This appears the "TRACK INFO" screen.


TRACK INFO
Meas= 1 STOP
Trk Mute Out Ch 1 & 9 16 Expt
1 PLAY 1 Ch 1
2 PLAY 1 Ch 2
3 PLAY 1 Ch 3
4 PLAY 1 Ch 4
5 PLAY 2 Ch 5
6 PLAY 1 Ch 6
7 PLAY 2 Ch 7
8 PLAY 1 Ch 8
TRK

5. Move the cursor to OUTPUT.

When outputting from the MIDI OUT 1 connector, set this to "1." When outputting from the MIDI OUT 2 connector, set it to "2." When outputting from both connectors, set it to "1 2."

Setting the MC-80 to Use Both an External and the Internal Sound Generator

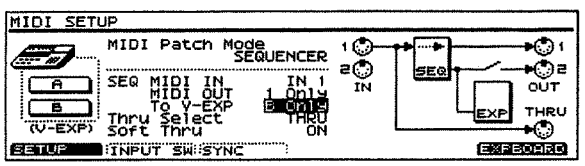
Independent settings can be made for the external sound generator and the internal sound generator.

* *In this example, the external sound generator is connected to the MIDI OUT 1 connector.*

Procedure

First, enable the MIDI OUT 1 connector, then set the VE-GS Pro to play instead of having sounds output through MIDI OUT 2.

1. Press [TOOLS], lighting the indicator, then press [F3 (MIDI)].
This appears the "MIDI Setup" screen.

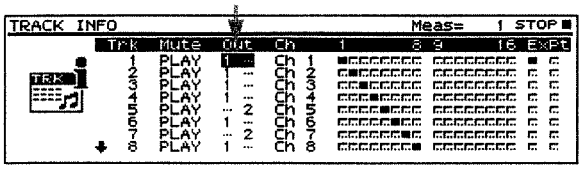


2. Set the MIDI OUT to "1 Only" and the "To V-EXP" to "B Only."
Next, determine the output for each track, whether the MIDI connector or the VE-GS Pro.

3. Load the song containing the data you want to set (p. 93).

4. Press the [SEQUENCER] and [F6 (TRK INFO)] buttons, in that order.
This appears the "TRACK INFO" screen.

Select "1" to have sounds sent from MIDI OUT, and "2" to have sounds played with the VE-GS Pro.


TRACK INFO
Meas= 1 STOP
Trk Mute Out Ch 1 8 9 16 ExPt
TRK
1 PLAY 1 Ch 1
2 PLAY 1 Ch 2
3 PLAY 1 Ch 3
4 PLAY 1 Ch 4
5 PLAY 2 Ch 5
6 PLAY 1 Ch 6
7 PLAY 2 Ch 7
8 PLAY 1 Ch 8

5. Move the cursor to OUT.
Set to 1 to have the track data played by the external sound generator, or 2 to have it played by the internal sound generator.

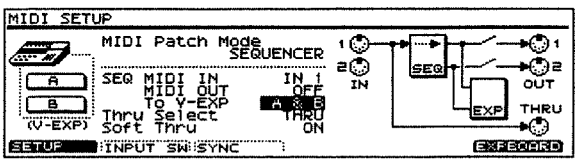
Setting the MC-80 So That Only the Internal Sound Generator is Used

When all tracks are to be played through the internal sound generator (VE-GS Pro), the performance data is not output from the MIDI OUT connectors with this setting.

Procedure

First, set up the VE-GS Pro as shown above to enable both Part Groups A and B are.

1. Press [TOOLS], lighting the indicator, then press [F3 (MIDI)].
This appears the "MIDI SETUP" screen.

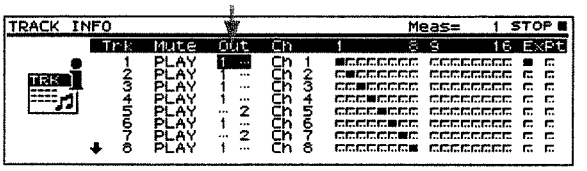


2. Set the MIDI OUT to "OUT 1&2" and the "To V-EXP" to "A & B."
Next, determine the connector to be used by each track.

3. Load the song containing the data you want to set (p. 93).

4. Press the [SEQUENCER] and [F6 (TRK INFO)] buttons, in that order.
This appears the "TRACK INFO" screen.

Select "1" to play Part Group A, and "2" to play Part Group B.


TRACK INFO
Meas= 1 STOP
Trk Mute Out Ch 1 8 9 16 ExPt
TRK
1 PLAY 1 Ch 1
2 PLAY 1 Ch 2
3 PLAY 1 Ch 3
4 PLAY 1 Ch 4
5 PLAY 2 Ch 5
6 PLAY 1 Ch 6
7 PLAY 2 Ch 7
8 PLAY 1 Ch 8

5. Move the cursor to OUT.
Set to 1 to have the track data played by VE-GS Pro Part Group A, or 2 to have it played by Part Group B.
For more information on Part Group A and B, see p. 112.

Setting the MIDI THRU connector

Thru Select settings

Normally, the MIDI THRU connector will simply retransmit the data that was received at the MIDI IN connector. However, you can also use it as the MIDI OUT connector of the VE-GS Pro (sold separately).
Normally you will use this with a setting of Thru Select = THRU.

Procedure

1. Press buttons in the following order; [TOOLS]-[F3 (MIDI)]-[F1 (SETUP)].

The MIDI SETUP screen appears.

2. Move the cursor to "Thru Select."
3. Use the [VALUE] dial to make the setting.

THRU: The connector will function as a MIDI THRU connector.

EXP OUT: The connector will function as the MIDI OUT of the VE-GS Pro.

4. Press [SEQUENCER] to return to the SONG PLAY screen.

Soft Thru settings

You need to make this setting only in special cases, such as when using a keyboard with an internal sound generator that has no Local Off function.
Normally, you can leave it at Soft Thru = ON.

Procedure

1. Press buttons in the following order; [TOOLS]-[F3 (MIDI)]-[F1 (SETUP)].

The MIDI SETUP screen appears.

2. Move the cursor to "Soft Thru."
3. Use the [VALUE] dial to set "ON/OFF."
4. Press [SEQUENCER] to return to the "SONG PLAY" screen.

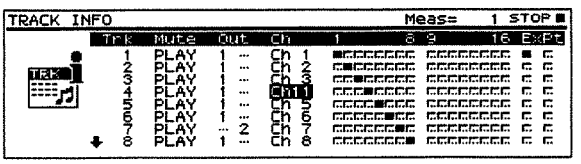
Selecting the MIDI Channel for Each Track

This determines the MIDI recording channels for each Phrase track.

Procedure

1. Press the [SEQUENCER] and [F6 (TRK INFO)] buttons, in that order.

This appears the "TRACK INFO" screen.


TRACK INFO
Meas= 1 STOP
Trk Mute Out Ch 1 8 9 16 Expt
TRK
1 PLAY 1 -- Ch 1
2 PLAY 1 -- Ch 2
3 PLAY 1 -- Ch 3
4 PLAY 1 -- Ch 4
5 PLAY 1 -- Ch 5
6 PLAY 1 -- Ch 6
7 PLAY -- 2 Ch 7
8 PLAY 1 -- Ch 8

2. Press [CURSOR (LEFT/RIGHT)] to move the cursor under "Ch."
3. Press [CURSOR (UP/DOWN)] to move the cursor to the track whose MIDI channel you want to set.
4. Select the MIDI channel.

Range

Ch1-Ch16: Data is received through the selected MIDI channel and recorded to the track.

ALL: Data sent through all MIDI channels from an external MIDI keyboard is recorded to the track.

* *Data sent from the tracks is transmitted via the MIDI channels for the data registered on the Phrase Tracks.*

Chapter 3. Playback Functions

This chapter provides a guide to the many options available for the playback of songs and patterns. Where no particular distinction need be made between the two, explanations apply to both songs and patterns.

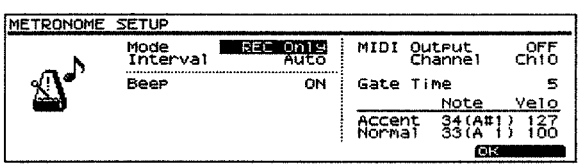
Basic Settings

METRONOME Settings

* *The volume of the MC-80's click sound is designed so that it is loud enough to be heard well, even during performances. To avoid having this loud sound appear suddenly due to any changes to the settings, turn down the click volume down with the [CLICK LEVEL] knob (p. 16) on the rear panel before making click settings.*

Procedure

Press the [TOOLS], then press [F2 (METRONOME)].
The "METRONOME SETUP" screen appears. Make the various settings in this screen.
When you have finished making the settings, press [F6 (OK)].



Mode

This determines when the click sound will be played.

Available settings

OFF: Never sounds.
PLAY Only: Sounds only during playback.
REC Only: Sounds only during recording.
REC&PLAY: Sounds during recording and playback.
Always: Always sounds, regardless of status.

Interval

This determines the interval during which the click sound is played.

Range

Auto, 1/2 (half note), 3/8 (dotted quarter note), 1/4 (quarter note), 1/8 (eighth note), 1/12 (eighth-note triplet), 1/16 (sixteenth note)

Beep

Specify whether the click sounded by the MC-80 will be on or off.

Range

OFF: Click will not sound.

ON: Click will sound.

MIDI Output

Specify whether data will be transmitted from MIDI OUT 1 or 2.

Available settings

OFF: Not output.
1 Only: Output only from MIDI OUT 1.
2 Only: Output only from MIDI OUT 2.
1&2: Output from both MIDI OUT connectors.

Channel

This determines the MIDI channel for the click sound when set to be played by a connected MIDI sound generator.

Range

Ch 1–Ch 16

Gate Time

This determines the gate time for the click sound when set to be played by a connected MIDI sound generator.

Range

1–5

Note, Velo

When the click sound is set to be played by a connected MIDI sound generator, the Note Number setting is made in "Note," and the volume of the click sound is set in "Vel."
Set to "Accent" for accents, "Normal" for other sounds.

Range

Note = 0 (C-1)–127 (G 9)
Vel = 1–127

Checking the Status of the Data on Each Track

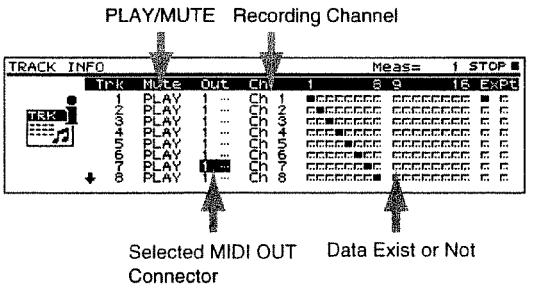
You can determine at a glance whether or not there is any data on a track, what the Mute status is, and other track conditions. If [F6 (TRK INFO)] is pressed during playback, the status indicating whether or not data is present for each track may not be shown.
If this problem occurs, stop playback for a moment to have the status properly displayed.

Procedure

Load the song containing the data you want to set (p. 93).

1. Press [SEQUENCER] and [F6 (TRK INFO)], in that order.

The "TRACK INFO" screen appears in the display.


PLAY/MUTE
Recording Channel
TRACK INFO
Meas= 1 STOP
Trk Mute Out Ch 1 8 9 16 Ex Pt
1 PLAY 1 Ch 1
2 PLAY 1 Ch 2
3 PLAY 1 Ch 3
4 PLAY 1 Ch 4
5 PLAY 1 Ch 5
6 PLAY 1 Ch 6
7 PLAY 1 Ch 7
8 PLAY 1 Ch 8
Selected MIDI OUT Connector
Data Exist or Not

- Mute: This indicates the MUTE/PLAY status.

  Ch: This determines the recording channel for the track (p. 39).

  Out: This selects the MIDI OUT connector used to output the data on that track.

- 1..8, 9..16: This indicates which channel's data, if any, is on which track. "■" indicates that data is present.

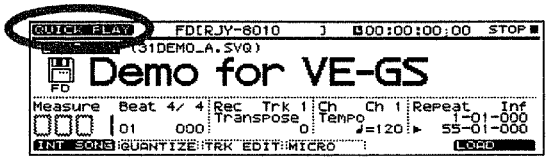
- Ex: This indicates the presence or absence of System Exclusive Messages. "■" indicates that System Exclusive Message data is present.

- Pt: This indicates the presence or absence of Pattern Call Messages. "■" indicates that Pattern Call Message data is present.

Two Playback Methods

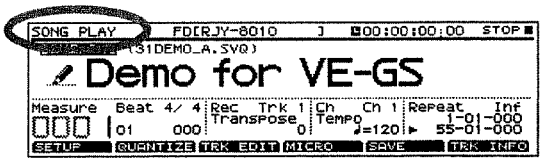
You can select either of two playback methods according to the particular task to which the MC-80 is applied. Each method has its advantages, as shown below. These are very convenient methods when used to achieve the aims for which they are suited. In cases where the data size is extremely large or when the resolution is greater than 480, using the following "Song Play" function will provide more stable playback.

Quick Play


QUICK PLAY
FD:RJY-8010
00:00:00:00 STOP
(S1DEMO_A.SVQ)
Demo for VE-GS
Measure Beat 4/ 4 Rec Trk 1 Ch Ch 1 Repeat Inf
Transpose 0 Tempo ♩=120 1-01-000
000 01 000 55-01-000
INT SONG QUANTIZE TRK EDIT MICRO LOOP

This is a very convenient function for playing back finished recordings. Play begins immediately after a song that has been saved to the disk is specified.
However, editing, recording, Marker, and Repeat functions cannot be used in Quick Play.

Song Play


SONG PLAY
FD:RJY-8010
00:00:00:00 STOP
(S1DEMO_A.SVQ)
Demo for VE-GS
Measure Beat 4/ 4 Rec Trk 1 Ch Ch 1 Repeat Inf
Transpose 0 Tempo ♩=120 1-01-000
000 01 000 55-01-000
SETUP QUANTIZE TRK EDIT MICRO SAVE TRK INFO

This function is very convenient during editing and recording, and when using the Marker and Repeat functions. Although this method allows unlimited use of these functions, songs must be loaded into the MC-80 first.
Furthermore, fast forwarding and rewinding are performed completely within the MC-80, no accessing of the disk required, thus allowing these operations to be carried out very rapidly.

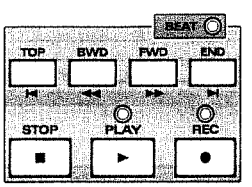
* *Songs loaded in the MC-80 itself are referred to as "internal songs."*

Playing Back Songs or Patterns

Basic Playback Operations

Carry out the basic operations used in playing back data with the buttons shown in the figure below.

* *The actions of the TOP, BWD, FWD, and END buttons can be carried out more rapidly in SONG PLAY.*



- [TOP]: This takes you to the beginning of the song or pattern.

- [BWD]: Press this once to go to the previous measure, or hold the button down to go back by several measures continuously. Additionally, if while holding down [BWD] you then press [FWD], you can go back through the preceding measures even faster.

- [FWD]: Press this once to advance to the next measure, or hold the button down to advance by several measures continuously. Additionally, if while holding down [FWD] you then press [BWD], you can advance through the following measures even faster.

- [END]: Pressing this button takes you directly to the end of the song or pattern. In Chain Play (p. 35), this also begins playback of the following song.

- [STOP]: This stops the song during playback or recording.

- [PLAY]: This plays back the song or pattern.
- [REC]: This is used in recording. (p. 39)
- [BEAT]: This shows the beat using red and green indicators.

Playing Back Songs Created in MC-80 Format

Procedure

1. Insert a disk containing a song into the disk drive.

2. Press [SELECT].

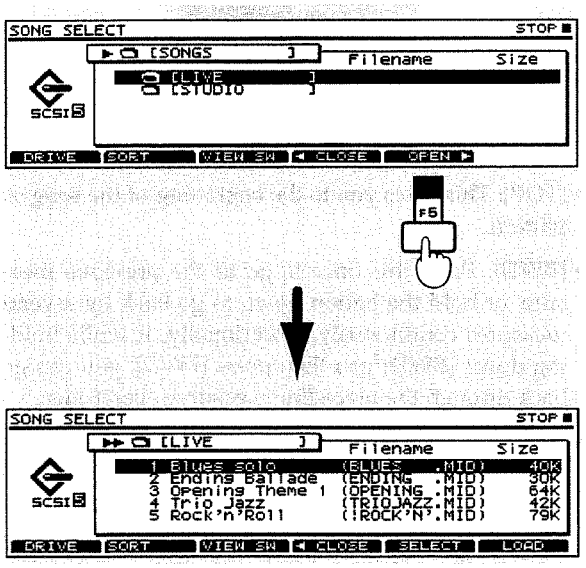
The "Song Select" screen appears in the display.

* *When [F3 (VIEW SW)] is pressed, the screen for selecting the file types to be shown in the "SONG SELECT" screen appears in the display. Move the cursor to each file-type name, and press [INC/+] (which places a "check mark" front of the name) to have the file type appear in the "SONG SELECT" screen, or press [DEC/-] if the file type is not to be displayed. Press [EXIT] to return to the "SONG SELECT" screen.*

3. Press [F1 (DRIVE)] to select the drive.

4. When selecting a song that resides within a folder, move the cursor to the folder and press [F5 (OPEN)].

The songs within the folder are displayed (see figure below).



5. Press [CURSOR] to move the cursor to the song you want to play.

6. To go into "QUICK PLAY" mode, press [PLAY]. To go into "SONG PLAY" mode, press [F6 (LOAD)] to load the song, then press [PLAY].

Playing Back XP-50/60/80 Songs

Procedure

The procedure for loading and playing back songs created on XP Series models is the same as that used for playing back songs created on the MC-80. Refer to the previous steps in "Selecting and Playing Back Songs Created on the MC-80".

Playing Back Standard MIDI Files

The MC-80 can load and play back songs in Standard MIDI File (SMF) format.

This means that, when saved in SMF format, even songs prepared on a different sequencer or using different sequencer software can be played using the MC-80. The procedure for loading and playing back songs is the same as that used for playing back songs created on the MC-80. Refer to the previous section "Playing Back Songs Created in MC-80 Format".

SMF comprises two formats, Format 0 and Format 1. The differences between to two formats is shown below.

SMF Format	Data Track Number	Track Arrangement on the MC-80
0	1 Track	All channels to one MC-80 track
1	1–255 Tracks	SMF tracks arranged on MC-80 as is (Note) (Notes on Using SMF Format 1)

* *When loading data containing more than sixteen tracks, all tracks numbered higher than 16 are placed together on Track 16.*

* *When playing back SMF Format 1 song data in Quick Play, SMF Tracks 17 and above are not played. To have this data played back, first load the data before proceeding. (p. 93)*

* *Since SMF Format 0 features only one track, when a song is loaded as an internal song, all performances are loaded to Track 1 on the MC-80. With the convenience found in features like Track Mute (p. 33), you can also assign data to the tracks through each of the different channels.For more detailed information and instructions, refer to p. 95.*

* *When using QUICK PLAY to play SMF Format 0 songs, all track buttons are lit, regardless of the performance data contained. Furthermore, the track buttons function as mute buttons for each channel.*

* *Standard MIDI Files (SMF) with a clock resolution of 480 or higher cannot be played back correctly in Quick Play on the MC-80. When playing back such data in Quick Play, first save the data in the MC-80 format (p. 91) before playback.*

Playing Back MC-50mkII Songs

The MC-80 can play back songs from the Roland's MC-50mkII (songs cannot be played back using Quick Play). Play back the song after the procedure shown below to load the song into the MC-80.
(The same procedure can be used to play back songs created on Roland's MC-50, MC-500MKII, MC-50mkII, MC-300 (using Super-MRC files), and MC-500 models.)

* *If an MC-50mkII song is saved as an MC-80 format song, it can be used with functions such as Quick Play.*

Procedure

1. Insert a disk containing a song into the disk drive.
2. Press [SELECT].
The "SONG SELECT" screen appears in the display.
3. Press [F1 (DRIVE)] to select the drive.
4. When selecting a song that resides within a folder, move the cursor to the folder and press [F5 (OPEN)].
The songs within the folder are displayed.
5. Press [CURSOR] to move the cursor to the song you want to play.
6. Press F6 (LOAD).
Loading of the song begins. The progress of the loading is indicated on the screen, and when the MC-80 has finished loading the song, the "SONG PLAY" screen appears in the display.
7. When loading is finished, press [PLAY].

Simple Song Selection Functions in the SONG Screen

You can select songs from within the currently selected folder (p. 97) by moving the cursor to the position in the SONG PLAY screen and rotating the [VALUE] dial, as shown in the figure below.

Switching On and Off the Display of Song File Types

Songs displayed in the SONG SELECT screen are limited to those of the selected file type. For example, if it is songs in the MC-80 format that you are looking for, select "SONG (MC-80)" (indicated by a check mark next to the item). That way, only MC-80 files are displayed, allowing you to find desired songs much more rapidly.

Procedure

1. Press [SEQUENCER].
2. Press [SELECT] to call up the SONG SELECT screen.
3. Press [F3 (VIEW SW)].
The SONG VIEW SWITCH screen appears.
4. Press the [CURSOR (UP)] or [CURSOR (DOWN)] button to move the cursor to the name of the file type you want to have displayed or omitted.
5. To prevent the file type from being displayed, press [DEC/-]; to display the file type, press [INC/+]. A check mark (✔) is placed the items displayed.

* *When F5 (ALL OFF) is pressed, all items are set not to be displayed; press F6 (ALL ON) to have all items displayed.*

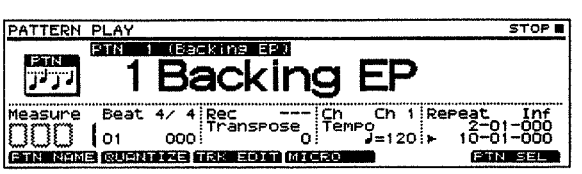
6. When you have finished making the settings, press [EXIT].
Only the file types specified in the SONG VIEW SWITCH screen are displayed.

Playing Patterns

You can create up to a maximum of 100 Patterns in each song. Patterns are saved along with each song when it is saved. A Pattern is not saved as an independent file, but as one part of a songs. After loading a song containing that Pattern into the MC-80 (p. 93), you can then play it back.

* *The MIDI OUT connector from which the performance of the Pattern is output is the MIDI OUT connector (p. 38) set on the song's recording track.*

1. Load a song containing the Pattern you want to play into the MC-80. (p. 93)
2. Press [SEQUENCER], then press [PATTERN].
The "PATTERN PLAY" screen appears in the display.



3. Move the cursor to where the "PTN***" Pattern number is displayed.
4. Rotate the [VALUE] dial to select the Pattern.
5. Press [PLAY].
Playback of the Pattern begins.

Changing the Overall Tempo of the Song

To change the tempo, you can either specify the tempo value in the Tempo window, or use the Tap Tempo function to set the tempo with the timing with which you tap on the [TAP] button. In either case, the tempo of the entire song is changed. For example, even if you want to change the tempo while the song is in progress, changing the tempo with this procedure changes the song's overall tempo.

* *If you want to return the tempo that was changed with this operation back to the value loaded from the disk, press [F6 (RESET)] in "TEMPO" window.*
* *The value for the tempo changed with this operation is temporary. By saving the song to the disk after changing the tempo, you can have the song played back at the changed tempo the next time, as well.*
* *If you want to change the tempo of part of a song, rather than the entire song, please see "Setting the Tempo to Change During the Song".*

Changing the Tempo in the Tempo Window

Procedure

1. Press [TEMPO].
The "TEMPO" window opens.

2. Change the tempo with the [VALUE] dial, the [INC] and [DEC] buttons, or the numeric keys.

3. When you have finished changing the tempo, press [EXIT].
The "TEMPO" window closes.

Range

Tempo=: 5–300

Changing the Tempo with Tap Tempo Function

With this function, the timing with which you tap the [TAP] button becomes the playback tempo.

Procedure

1. Play back the song.

2. Press [TEMPO].
While this step is not absolutely required, it might be convenient to display it, since it allows you to check the tempo value in the window.

3. Press the [TAP] button at the tempo at which you want to perform.
When you press or tap the button three or more times, the tempo changes according to the intervals between taps.

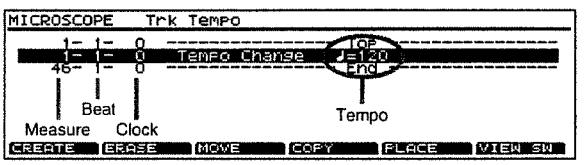
* *The set tempo is indicated by "Tempo=" in the SONG PLAY screen.*

Range

Tempo=: 5–300

Setting the Tempo to Change During the Song

You can create songs that use tempos that change during the course of the song.
You can set the tempo to change automatically during playback at predetermined locations within the song, starting, for example, the song with a tempo of 120, changing it to 150 at the ninth measure, then to 135 at the seventeenth measure, and so on. This setting is made in the Tempo Tracks, which can be edited in the MICROSCOPE screen, in the same way as Phrase Tracks 1–16.



Procedure

1. Load the song whose tempo you wish to specify into the MC-80. (p. 93)

2. Press [SEQUENCER], then press [F4 (MICRO)].
The "MICROSCOPE" screen appears in the display.

3. Press [TEMPO/BEAT] and select the Tempo Track.

* *The screen in the display is switched each time [TEMPO/BEAT] is pressed, from Tempo Tracks, to Beat Tracks.*

4. Press [CURSOR] to move the cursor to either measure, beat, or clock.

5. Use the [VALUE] dial to specify the location at which you wish to input the tempo.

6. Press [F1 (CREATE)]
The data designating the tempo is input.

7. Press [CURSOR] to move the cursor to the tempo value position, and input the desired tempo.

* *When specifying tempo changes with this method, carrying out "Changing the Overall Tempo of the Song" then the song's overall tempo changes.*
* *You can also record tempo changes made with the [VALUE] dial during the song with the Realtime function. Refer to "Recording Song Tempo Changes" (p. 44).*
* *Patterns do not contain Tempo Tracks. Pattern tempos always follow the tempo at the current point in the song.*
* *When the "MICROSCOPE Trk Tempo" screen is displayed, the tempo that you specified in the "TEMPO" screen will be the tempo when [F6(RESET)] was pressed in the "TEMPO" screen.*

Playing the Song at a Fixed Tempo (Tempo Track Mute)

When you want to disable the Tempo Track settings and play the song back at a fixed tempo, mute the Tempo Track.

Procedure

1. Press [SEQUENCER].

The SONG PLAY screen appears in the display.

2. If playing back the song, press [STOP] to stop the song.

* *The Tempo Tracks cannot be muted while the song is being played back.*

3. Press [TEMPO/BEAT], turning off the button indicator lights.

To cancel the mute, press [TEMPO/BEAT] once more, turning on the indicator light again.

Playing Back a Song from a Point Other Than the Beginning (MIDI Update)

Fast forwarding or rewinding to begin playback from a point within the song can result in selection of the incorrect tone or unwanted shifts in pitch. This is because the MIDI Messages are not sent to the sound generator in the interim. In such instances, use the MIDI Update function.

Using this function transmits to the sound generator the MIDI Messages other than Note contained in the interval from the beginning of the song to the point to which you have moved, allowing proper playback.

Procedure

1. Press [SEQUENCER].

The SONG PLAY screen appears in the display.

2. If playing back the song, press [STOP] to stop the song.

* *The MIDI Update function cannot be carried out while the song is being played back.*

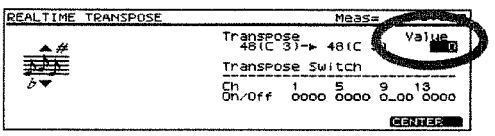
3. While holding down [SHIFT], press [PLAY].

During processing, "MIDI UPDATE..." appears in the display; when processing is done, "Completed" appears in the display.

Transposing During Playback (Realtime Transpose)

Transposing

You can transpose the key of the entire song. You can also transpose while the performance is in progress.



Procedure

1. Press [TRANSPOSE].

The "TRANSPOSE" screen appears in the display.

2. Move the cursor to the "VALUE" position.
3. Rotate the [VALUE] dial to change the degree of transposition.

Increasing the value by 1 raises the pitch one semitone (half-step), and reducing by 1 lowers the pitch by the same degree.

Range

-24 – +24

* *Pressing [F6(CENTER)] will set VALUE to 0.*

4. When you have finished making the settings, press [EXIT].

Return to the previous screen

* *By inputting the key of the song, you can specify the amount of transposition. In this case, replace Steps 1 2 and 3 above with Steps the following procedure.*

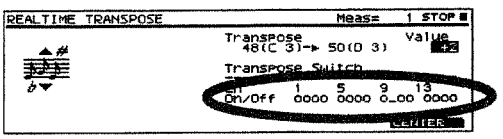
1. Press [TRANSPOSE].
2. Move the cursor to the "Transpose" position.
3. Rotate the [VALUE] dial to change the degree of transposition.

For example, if you want to change the key of the song from C to F, by specifying "C1->F1" or "C2->F2," "+5" automatically appears to the right.

Selecting Channel Not to Be Transposed

Only Channel 10 is set at the factory not to be transposed. Since each of the drum and percussion parts on

this track is assigned to a different key, transposing this data would result in different instruments being played (Channel 10 is used as the receive channel for drum parts on many sound modules).
Depending on the song or the sound generator you are using, the drum channel may be one other than Channel 10. In such cases, use the following procedure to set the track that is not to be transposed.



Procedure

1. Press [TRANSPOSE].
The "TRANSPOSE" screen appears in the display.

2. Move the cursor below "Transpose Switch."
Move from left to right through Channels 1, 2,..., and 16, moving along the display of the channels to be left as is.

3. Move the cursor to each channel position.

4. Press [INC] at the channels which you want to be transposed, and [DEC] at those you do not want transposed.
Either "O" or "_" appears at each position.

5. When you have finished making the settings, press [EXIT] to return to the SONG PLAY screen.

Use the Fadeout Function

Song Fadeouts

This function gradually lowers the volume during song playback. This function is called "Fadeout."

Procedure

1. Play back the song.

2. While holding down [SHIFT], press [END].
The volume gradually decreases.

* *During this time, no key other than [STOP] can be used.*

3. When the volume is completely lowered, press the [STOP] button to stop the song.

4. While holding down [SHIFT], press [END] restores the original volume.

* *Whether [TOP], [BWD], [FWD], or [END] is pressed, the song reverts to its original volume level.*

* *The volume will also return to the original setting when a different song is selected.*

* *This function can only be used with sound generators that can receive the "Master Volume" Universal Realtime System Exclusive Message.*

Determining the Fade Out Time

You can determine the amount of time elapsed for the volume to be completely lowered using Fade Out.

Procedure

1. Press [SEQUENCER], then [F1 (SETUP)].
The "SONG INFO" screen appears in the display.

2. Move the cursor to where "Fade out time (sec)" appears in the display.

3. Set the Fade Out time.

Range

1–30

4. Press [EXIT] to return to the "SONG PLAY" screen.

* *This setting is for internal songs (p.27). It cannot be used in Quick Play.*

Repeating Playback (Repeat)

Making Song Repeat Settings

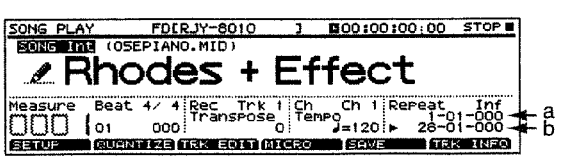
Use the Repeat function when you want repeated playback of the entire song, or if you want to repeat playback of just a specified segment of the song.

Procedure

1. Press [SEQUENCER].

2. If using a song that has been saved to the disk, then use the procedure described on p. 93 to load the data. When using a song during Quick Play, press [F6 (LOAD)] to load the song.

* *With MC-80 format, saving the settings for a repeated segment in a song makes it possible to repeat playback of that specified segment. However, to change the repeated segment, press [F6 (LOAD)] while in the QUICK PLAY screen to load the song.*



3. Move the cursor to "Repeat," and set the number of times you want the song or segment repeated.

Range

1–99: The part of the song is repeated the specified number of times.
Inf: Playback of the entire song is repeated until set to "OFF."

4. Move the cursor to "a" in the above figure and set the point which is to become the beginning of the segment you wish to have repeated.

5. Move the cursor to "b" in the above figure and set the point which is at the end of the segment you wish to have repeated.

* *Only the measures and beats can be set for "a" and "b" in the figure above.*

6. Press [REPEAT].
The indicator lights.

7. Press [PLAY].
Playback begins. Playback repeats at the specified measures.

* *You can cancel the repeat while it is in progress by pressing [REPEAT], but you can not change other Repeat settings.*

* *If you save a song as an MC-80 song file with [REPEAT] turned on, the Repeat settings are recorded simultaneously (if saved as a Standard MIDI File, then the Repeat settings are not saved).*

* *During Quick Play, only the entire song can be repeated. (However, in the case of a song in MC-80 format, playback can be repeated over the repeat area that was saved.)*

If you wish to loop playback between repeat points, press [F6 (LOAD)] in the Quick Play screen to load the song.

Preselecting the Following Song During Playback (Next Song)

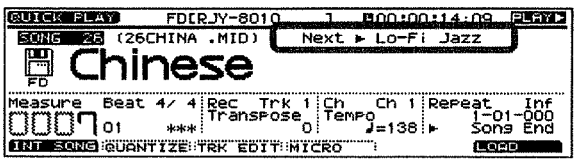
You can "reserve," or select the next song to be played while playback is in progress. Only one song can be reserved at a time.

Procedure

1. During playback of a song, press [SELECT].
The "SELECT" screen appears.

2. Move the cursor to the song that you want to be played next.

3. Press [ENTER] to select the song.
When the selection is set, the name of the selected song appears in the display.



* *Songs can only be reserved during playback.*

* *To undo a selection, press [EXIT].*

* *If [PLAY] is pressed instead of [ENTER], playback of the current song stops, and playback of the selected song begins (this is a normal song selection and playback operation). In this case, the reservation setting of the song is retracted.*

Turning Each Track On and Off

Playback can be turned on and off for each track (Track Mute). Additional convenient functions include having only one selected track play (Solo), and playing all tracks except one (Minus One). (p. 34)

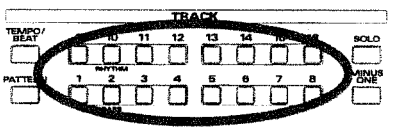
* *In the case of a pattern, this function will specify whether each MIDI channel of the musical data will playback or not.*

* *When you quick-play SMF Format 0 data, all track buttons will light regardless of the contents of the data. In this case, the track buttons will function as mute switches for each channel.*

* *With Standard MIDI File Format 0, the entire performance is loaded to Track 1. You can also set the MC-80 so that the different performances are loaded onto different tracks. For more detailed information, please refer to p. 95.*

Muting a Selected Track (Track Mute)

This mutes a Phrase Track on which performance data is recorded, muting the performance of the specific instrument.



Procedure

1. Press TRACK [1]–[16], flashing the indicator lights for any muted Phrase Tracks.

2. To have the performance of a muted Phrase Track play, press TRACK [1]–[16] once more, lighting on the indicator light.

* *If an indicator for any of the TRACK [1]–[16] buttons is not lit, it means that there is no data recorded on the corresponding track.*

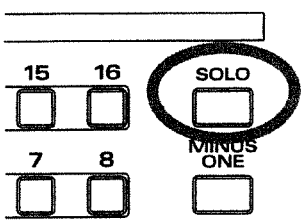
* *Mute On/Off settings are saved when the song is saved as an MC-80 song. The performances of muted tracks are not saved if the songs are saved as a Standard MIDI File, so take care when saving the song.*

Playing Only One Track (Solo)

This function is convenient when you want to temporarily play only one specified track.

Procedure

1. Press [SOLO], the indicator lights.



2. Next, press the button of the track you want to listen (TRACK [1]-[16]).

Only the track whose button is pressed is played, and all other tracks remain muted.

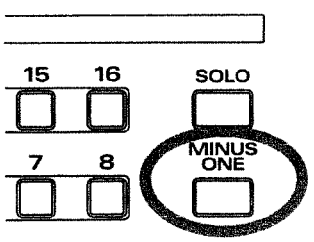
To exit the Solo function, press [SOLO] once more.

Keeping Only One Track from Playing (Minus One)

This function temporarily keeps only one track from playing.

Procedure

1. Press [MINUS ONE], the indicator lights.



2. Next, press the button of the track you want to mute (TRACK [1]-[16]).

Only the track whose button is pressed is muted, and all other TRACK buttons remain on.

To exit the Minus One function, press [MINUS ONE] once more.

Jumping to a Specific Measure (Mark Jump)

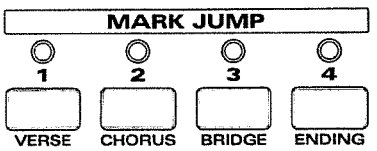
After a marker is set, you can then move the marker by specifying the measure and beat.

* *The clock cannot be specified.*

* *The "Pattern" has no this function.*

Setting Markers/Using Mark Jump

To set a new Marker, use a button whose indicator is not lit.



Procedure

1. Press [SEQUENCER] to call up the "SONG PLAY" screen.

2. To use a song that has been saved to disk, use the procedure described on p. 93 to load the song.

To use a song during Quick Play, press [F6 (LOAD)] to load the song.

3. Play back the song.

4. As the song plays, press a MARK JUMP button (MARK JUMP [1]–[4]) whose indicator is unlit at the point in the song where you want the Marker set.

The indicator lights, indicating that the Marker has been set.

5. By pressing a button whose indicator is on you can jump directly to that Mark Point.

* *The Mark Jump function cannot be used during Quick Play or Chain Play.*

* *Marks can be assigned in units of a measure or beat. For details refer to p. 35.*

* *You can also set Markers and jump to Mark Points with playback stopped.*

Deleting Markers

This deletes Markers that have been set.

Procedure

1. While holding down [SHIFT], press the MARK JUMP button for the Marker you want to delete.

The indicator above the button goes off, allowing you to confirm that the Marker has been deleted.

* *After deleting the Marker, by holding down [SHIFT] and pressing the Marker button again, the deleted Marker is restored.*

Changing the location of a marker

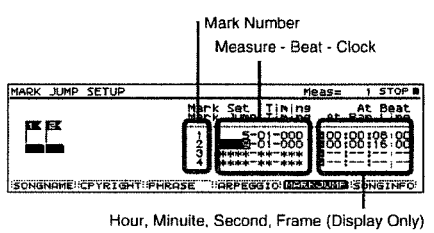
After assigning a marker, you can modify the measure and beat settings to change the location of that marker.

* *It is not possible to specify the clock.*

Procedure

1. Press [TOOLS], lighting the indicator, then press MARK JUMP [1]–[4].

At this time, it doesn't matter which of the MARK JUMP [1]–[4] buttons is pressed; any one will do.
The "MARKER SETUP" screen appears.
The 1, 2, 3, and 4 at the bottom of the window indicate each of the Mark Points 1–4.



2. Move the cursor to set the Mark Points.

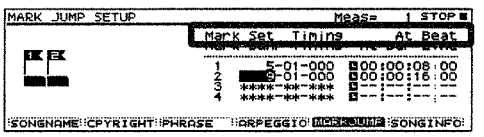
Precisely Setting the Markers

This function automatically corrects the placement of Markers, even if your timing in setting the Markers is somewhat off.

Procedure

1. Press [TOOLS], lighting the indicator, then press MARK JUMP [1]–[4].

At this time, it doesn't matter which of the MARK JUMP [1]–[4] buttons is pressed; any one will do.
The "MARK JUMP SETUP" screen appears.



2. Move the cursor to "MARK SET TIMING."
3. Determine the degree of precision for the Quantize function.

At Beat: This corrects the timing of the Marker to the closest beat.
At Bar Line: This corrects the timing to the closest bar line.

Setting the Mark Jump Timing

This function automatically corrects any minor timing mistakes made when pressing the MARK JUMP button in Mark Jump.

Procedure

1. After pressing [TOOLS], lighting the indicator, press MARK JUMP [1]–[4].

In this case, you can press any of the MARK JUMP buttons [1]–[4].
The "MARK JUMP SETUP" screen opens.

2. Move the cursor to "Mark Jump Timing."
3. Determine the level of precision for the automatic correction.

At Beat:Corrects the timing to the next beat.
At Bar Line: Corrects the timing to the next measure bar.

Continuous Playback of Songs (Chain Play)

Chain Play is a Quick Play function that plays back songs recorded on the disk. This allows you to set the playback order you like.

Creating a Chain (Preparation of the Chain)

Procedure

1. Insert the disk into the disk drive.
2. Press [CHAIN PLAY].
3. Press [F6 (EDIT)].

The "CHAIN EDIT" screen appears.

4. Press [CURSOR] to move the cursor to the point where you want to add the song.

5. Press [F3 (INSERT)] or [SELECT].
The SONG SELECT screen appears.

6. Press [F1 (DRIVE)], then select a drive.

7. To select a song within a folder, move the cursor to the desired folder, then press [F5 (OPEN)] to display the folder's contents.

8. Move the cursor to the song to be loaded.

9. Press [ENTER].
The song is added to the chain.

* *The [F1],[F4],[F5] and [F6] buttons in the CHAIN EDIT screen provide functions that let you edit a chain.*

- F1 (INFO): Displays information for the song at the cursor location.

  For example if the display indicates "FD:\LIVE," this means that the song is located within the "LIVE" folder of the floppy disk.

- F4 (DELETE): Deletes the song at the cursor location.
- F5 (CLEARALL): Deletes all steps to make an empty chain.
- F6 (WAIT): Temporarily pauses chain play when the song at the cursor location finishes playing.

(This is the same setting as that made by pressing [F2 (WAIT)] in the CHAIN EDIT screen.)

* *Pressing [F6 (ADD ALL)] in the CHAIN SONG SELECT screen adds all of the songs within the selected folder to the chain.*

* *By pressing [F2 (SORT)] in the CHAIN SONG SELECT screen, you can switch between having the data arranged in order of song name or by file name. In addition, pressing [F3 (VIEW SW)] allows you to select the display type*

Using Chain Play

This plays back the songs in the chain in order.

Procedure

1. Press [CHAIN PLAY].

2. Either create a new chain (p. 35) or load a chain from the disk onto which is has been saved. (p. 36)

3. By using [VALUE] dial, you can designate the song in the chain from which to begin.

4. Press [PLAY].
Chain Play begins playback.

* *The [F1]–[F5] buttons in the CHAIN PLAY screen provide various functions for chain play.*

- *F1 (CHAINTOP): While chain play is stopped, you can move to the first step in the chain.*
- *F2 (WAIT): Chain play will temporarily pause when the currently playing song ends.*

To start Chain Play again, press [PLAY].

- *F3 (ALL RPT): When all songs of the chain have finished playing, playback will continue from the first step.*
- *F4 (LOAD CHN): Load a chain file (p. 36)*
- *F5 (SAVE CHN): Save a chain file. (p. 36)*

* *The MC-80 demo disk contains a chain file. This chain file will consecutively play back the demo songs for the VEGS Pro or SC-88 Pro series.*

The locations (disk or folder) of the songs you specify in chain editing are remembered. This means that even if you move the chain file, chain play will not be possible unless the song files remain in their original location.

Saving Chains to Disk

This saves the chains you have created to the disk.

* *When the Pattern has no data in it, cannot save the chains.*

Procedure

1. Press [CHAIN PLAY].

2. Press [F5 (SAVE CHN)].

* *If the chain is empty, the display will indicate "CHAIN Empty!"*

The window for entering the name of the chain file opens. Enter the name by moving the cursor with the cursor buttons and rotating the [VALUE] dial to select the characters.

3. When you have finished inputting the name, press [F6 (OK)].

4. Press [F1 (DRIVE)] and select the disk to which you want to save the chain.

5. To select a song saved within a folder, move the cursor to the desired folder, then press [F5 (OPEN)] to display the folder's contents.

6. Press [F6 (SAVE)].
The chain is saved.

Loading Chains from the Disk for Playback

This loads chain files that are saved on disks.

Procedure

1. Press [CHAIN PLAY].
2. Press [F4 (LOAD CHN)].
The "LOAD CHAIN" window appears in the display.
3. Rotate the [VALUE] dial to select the chain file.
4. Press [F6 (LOAD)].
The chain is loaded.

* *Files for using Chain Play with demo songs are found on the demo disk (VE-GSPRO.SVC). Use the procedure above to load and play back these files.*

Locating Songs Added to Chains

You can confirm the disk on which a song added to a chain is located, as well as its location on that disk.

Procedure

1. Press [CHAIN PLAY].
2. Press [F6 (EDIT)].
3. Press [F3 (INFO)].
The CHAIN INFO screen appears.
Rotate the [VALUE] dial to select a song within the chain, and the location of the song is displayed.
4. After checking the song's location, press [F6 (OK)].
5. Press [EXIT] a number of times until you are returned to the CHAIN PLAY screen.

Changing the Sequence of Songs in a Chain

You can change the order of songs in a chain after it has been created. Change the order by moving the cursor to the songs in the chain one by one, thus selecting the position for each song.

Procedure

1. Create a new chain (p. 35) or load a chain file (p. 35).
2. Press [CHAIN PLAY], then press [F6 (EDIT)] to open the CHAIN EDIT screen.
3. Move the cursor to the songs for which you want to change the order.
4. While holding down [SHIFT], rotate the [VALUE] dial.
5. The song's position is changed.

Song Info

The song name, copyright information, and total performance time is displayed.

Procedure

1. Press [SEQUENCER], then press [F1 (SETUP)].

The SONG INFO screen appears. Confirm the time.

2. Press [EXIT],return to the SONG PLAY screen.

Chapter 4. Recording Functions

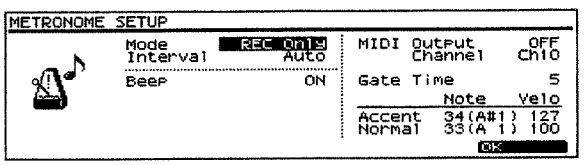
Basic Settings

Metronome Settings

* *The volume of the MC-80's Metronome sound is designed so that it is loud enough to be heard well, even during performances. To avoid having this loud sound appear suddenly due to any changes to the settings, turn down the click volume down with the [CLICK LEVEL] (p. 16) knob on the rear panel before making click settings.*

Procedure

Press the [TOOLS], then press [F2 (METRONOME)].
The "METRONOME SETUP" screen appears. Make the different parameters in this screen.



Mode

This determines when the click sound will be played.

Available settings

OFF: Never sounds.
PLAY Only: Sounds only during playback.
REC Only: Sounds only during recording.
PLAY & REC: Sounds during recording and playback.
Always: Always sounds, regardless of status

Interval

This determines the interval during which the click sound is played.

Range

Auto, 1/2 (half note), 3/8 (dotted quarter note), 1/4 (quarter note), 1/8 (eighth note), 1/12 (eighth-note triplet), 1/16 (sixteenth note)
When set to "Auto," the song is played back according to the rhythm specified in the performance data.

Beep

Specify whether the click sounded by the MC-80 will be on or off.

Range

OFF: Click will not sound.

ON: Click will sound.

MIDI Output

Specify whether data will be transmitted from MIDI OUT 1 or 2.

Available settings

OFF: Not output.
1 Only: Output only from MIDI OUT 1.
2 Only: Output only from MIDI OUT 2.
1&2: Output from both MIDI OUT connectors.

Channel

This determines the MIDI channel for the click sound when set to be played by a connected MIDI sound generator.

Range

Ch 1–16

Gate Time

This determines the gate time for the click sound when set to be played by a connected MIDI sound generator.

Range

1–5

Note, Velo

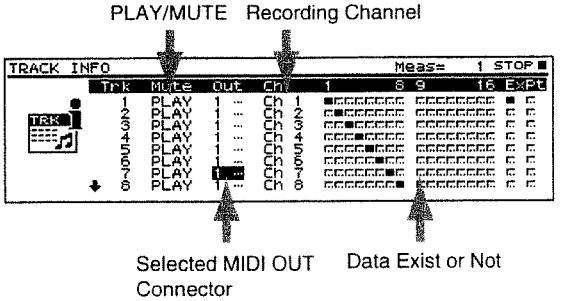
When the click sound is set to be played by a connected MIDI sound generator, the Note Number setting is made by "Note," and the volume of the click sound is set by "Vel."
Set to "Accent" for accents, "Normal" for other sounds.

Range

Note = 0 (C -1) –127 (G 9)
Vel = 1–127

Settings for Each Track

You can determine at a glance the presence or absence of any data on a track, the Mute status, and other track conditions.


PLAY/MUTE
Recording Channel
TRACK INFO
Meas= 1 STOP
Trk Mute Out Ch 1 8 9 16 ExPt
1 PLAY 1 Ch 1
2 PLAY 1 Ch 2
3 PLAY 1 Ch 3
4 PLAY 1 Ch 4
5 PLAY 1 Ch 5
6 PLAY 1 Ch 6
7 PLAY 1 Ch 7
8 PLAY 1 Ch 8
Selected MIDI OUT Connector
Data Exist or Not

Procedure

1. Press [SEQUENCER] and [F6 (TRK INFO)], in that order.

The "TRACK INFO" screen appears.

- Mute: This indicates the MUTE/PLAY status.

  Out: This selects the MIDI OUT connector used to output the data on that track.

Ch: This determines the recording channel for the track.

- 1..8, 9..16: This indicates which channel's data, if any, is on which track. "■" indicates that data is present; "-" indicates that the track holds no data.
- Ex: This indicates the presence or absence of System Exclusive Messages. "■" indicates that System Exclusive Message data is present.
- Pt: This indicates the presence or absence of Pattern Call Messages. "■" indicates that Pattern Call Message data is present.

Before Beginning to Record

If you wish to perform realtime recording, or to use a keyboard for step recording, you will need to connect a MIDI keyboard to MC-80.
For details refer to p. 2 of Quick Start.

Song Initialize

If a song is already loaded in the MC-80, recording proceeds after the song is deleted and the MC-80 is cleared. This operation is referred to as "Song Initialize."
Using Song Initialize is a convenient way to create songs from the very beginning.

Procedure

1. Press [TOOLS].
2. Press [F4 (CLEAR)].
3. Select the initialization method.
   - 1 NEW SONG: No data of any kind is entered.
   - 2 GM SETUP: After initialization, settings for GM sound generators are entered.
   - 3 GS SETUP: After initialization, settings for GS sound generators are entered.
   - 4 Demo for GS Pro: The demo song for use with the VE-GS Pro is loaded.
4. Press [F6 (SELECT)].
5. A confirmation screen appears in the display.

* *Nothing appears in the display when no editing or recording is being performed.*

6. Press [F6 (CLEAR)].

This executes the initialization.

Setting the Beat

When a song is initialized (or immediately after the power is turned on), 4/4 is input as the initial Beat Track setting. If you want to create a song with a beat other than 4/4, change this setting.
You can also change beat settings within the song. For more detailed information and instructions, see "Changing the Beat Within a Song" in "Chapter 7 Editing Songs and Patterns (EDIT)." (p. 64)

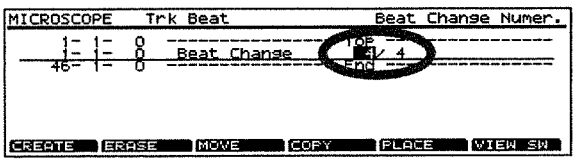
Procedure

1. Press [SEQUENCER], then press [F4 (Micro)].

The "MICROSCOPE" screen appears in the display.

2. Press [TEMPO/BEAT] several times and select the "Trk Beat."

* *The screen in the display is switched each time [TEMPO/BEAT] is pressed, from "Trk tempo.", to Beat Tracks.*



3. Move the cursor as shown in the above figure, and then set the beat.
4. Press [SEQUENCER] to return to the SONG PLAY screen.

Range

Numerator = 1–32; Denominator = 2, 4, 8, 16

* *When using Patterns as parts of songs, it is desirable to have the pattern have the same beat as the song. If the beat of a song and a Pattern differ, the Pattern plays back according to its own settings, regardless of the measure bars in the song.*

Adding a Count Sound Before Recording Begins

When it is necessary to start recording immediately after the beginning of the song, or if recording at some point within a song, this useful function gives you an idea of the rhythm before you come in.
Select the way you want recording to begin.

Procedure

1. Press [SEQUENCER].
2. Press [REC].

The "REC STANDBY" screen appears.

3. Move the cursor to "Count In."
4. Refer to the following "Available settings," then set the count length.

Available settings

OFF: Recording begins at the same time the [PLAY] button is pressed.

1 Meas: After the [PLAY] button is pressed, one measure of count sound is played before recording begins.

2 Meas: After the [PLAY] button is pressed, two measures of count sound are played before recording begins.

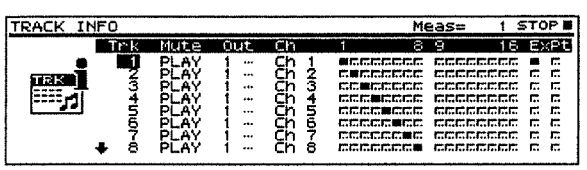
Wait Note: Recording begins when the keyboard is played or when the hold pedal is pressed.

5. Press [PLAY] to begin recording.

Changing a Track's Recording MIDI Channel

When shipped from the factory, the MC-80 is set so that each track to which the MIDI Channel data is recorded is predetermined, with Track 1 corresponding to MIDI Channel 1, Track 2 to MIDI Channel 2, and so on. However, the tracks can also be assigned to different channels.

* *Once performance data has been recorded, its MIDI channels cannot be changed.*
* *This setting is saved as one of the settings of the song currently being recorded.*


TRACK INFO
Meas= 1 STOP
Trk Mute Out Ch 1 8 9 16 ExPt
1 PLAY 1 Ch 1
2 PLAY 1 Ch 2
3 PLAY 1 Ch 3
4 PLAY 1 Ch 4
5 PLAY 1 Ch 5
6 PLAY 1 Ch 6
7 PLAY 1 Ch 7
8 PLAY 1 Ch 8
TRK

Procedure

1. Press the [SEQUENCER], and [F6 (TRK INFO)] buttons, in that order.

The "TRACK INFO" screen appears in the display.

2. Move the cursor the "Ch" setting for each track.

3. Set the channels to be used.

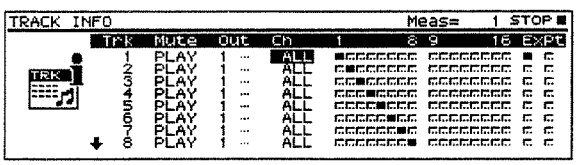
When "Ch 1–16" is selected, recording takes place on MIDI Channels 1–16.

* *Since Patterns comprise a single track, the above settings are not featured for Patterns (selection of recording MIDI channels is made in record standby).*

Recording Performance Data from Multiple MIDI Channels onto Tracks

You can set the MC-80's channels to which data from an external MIDI keyboard's channels are recorded.

* *This setting allows the MC-80's recording functions to imitate those of the MC-50mkII.*
* *This setting is saved as one of the settings of the song currently being recorded.*
* *In the initial settings, the data recorded to each track is through the set channels, regardless of the transmit channels of any external keyboard or other such device. For ordinary recordings, it is usually more convenient to use these settings as is.*
* *Use the settings shown below, even when recording data from an external device over multiple MIDI channels simultaneously.*



Procedure

1. Press the [SEQUENCER] and [F6 (TRK INFO)] buttons, in that order.

The "TRACK INFO" screen appears in the display.

2. Move the cursor next to the "Ch" setting for each track.

3. Set the channels to be used.

When "ALL" is selected, all channels received are recorded.

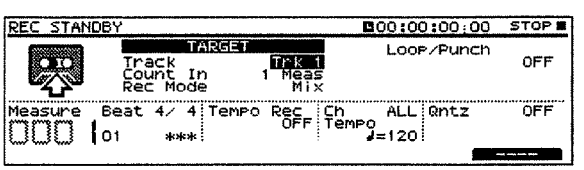
Recording As You Perform (Realtime Recording)

Realtime Recording is a method in which recording progresses in time with the keyboard performance or controller operations.

Shown below are the settings that can be made while in Realtime Recording standby mode.

Realtime Recording Settings

The different types of settings used in recording can be made in the Realtime REC STANDBY screen (this is displayed by pressing [SEQUENCER], then [REC], then the TRACK button for the track to be recorded).



Track (Recording Track)

This is for selecting the destination Phrase Track, or the Phrase Track onto which data is to be recorded. After moving the cursor here, you can select the track by pressing the TRACK button (TRACK [1]–[16]) for the track to which you want to record.

To record to Patterns, press [PATTERN] then rotate the [VALUE] dial to select the Pattern number.

Count In

This sets the count sound played before the start of recording.

Available settings

OFF: Recording begins at the same time the [PLAY] button is pressed.

1Meas: After the [PLAY] button is pressed, one measure of count sound is played before recording begins.

2Meas: After the [PLAY] button is pressed, two measures of count sound are played before recording begins.

Wait Note: Recording begins when the keyboard is played or when the hold pedal is pressed.

Rec Mode (Recording Mode)

This is for selecting the recording method.

Available settings

Replace: Performance data previously recorded on the track is deleted as new material is recorded. This is used for redoing recordings.

Mix: This is the recording method most commonly used. New material is recorded without deleting previous data. This method is used, for example, when first recording the right-hand part of a performance, and then going back and recording the left-hand part. Additionally, when used in conjunction with Loop Recording, you can repeat recording over the same specified segment any number of times, without deleting any data from each pass.

Measure

This displays the current location in the song. This acts as the position from which recording begins.

Beat

This indicates the beat. The beat is set in the "MICRO-SCOPE" screen.

For instructions on how to set this, please refer to (p. 61, 64).

Ch (Recording Channel)

In a song, the MIDI channel used for the data being recorded can be specified for each track (since Patterns feature only one track, this specifies the MIDI channel for the recorded data).

Tempo

This sets the tempo.

Loop / Punch

Make the setting determining whether Loop Recording or Punch-In Recording is to be used.

Available settings

OFF: Loop Recording is turned off.

Loop(POINT): Loop Recording takes place in the segment defined by the Loop Points. The loop range will be displayed. Move the cursor here, and specify the range that will be repeated.

Loop(1 Meas): The segment loops one measure from the measure in which recording begins.

Loop(2 Meas): The segment loops two measures from the measure in which recording begins.

Loop(4 Meas): The segment loops four measures from the measure in which recording begins.

Loop(8 Meas): The segment loops eight measures from the measure in which recording begins.

Loop(16 Meas): The segment loops sixteen measures from the measure in which recording begins.

Loop(ALL): Recording of the entire song, from beginning to end, is repeated.

Auto Punch In: Previously recorded data in a predetermined segment (the Punch Point) is deleted as recording progresses. This is convenient for recording over mistakes in a performance. When recording starts, the song is first played back. When the song reaches the Punch Point, the MC-80 goes into record mode.

Manual Punch In: Previously recorded data in selected segments only is deleted and replace by the newly recorded material. This is convenient for recording over multiple mistakes in a performance. When recording starts, the song is first played back. The MC-80 goes into record mode when the pedal or button is pressed, and reverts to playback mode when the pedal or button is pressed once again. The mode toggles between record and playback each time the pedal or button is pressed.

Loop (Loop Range)

You can set the range of the loop, specifying measure, beat, and clock. The upper setting determines the starting point, the lower figure sets the Loop Point. This setting is required when "Loop (Point)" and "Auto Punch In" are selected in "Loop/Punch."

The shortest range that can be selected in one measure. Ranges can be made longer, in increments of one beat.

* *The Clock cannot be specified.*

Tempo Rec (Tempo Recording)

Setting Tempo Rec to "ON" allows recording of the sequence of tempo changes in Realtime Recording. Tempo changes are recorded to the Tempo Track.
You can check recorded tempo data by pressing [SEQUENCER] followed by [F4 (MICRO)], and then pressing [TEMPO/PATTERN] to display "TEMPO TRACK."

Qntz (Recording Quantize)

This indicates whether or not Quantize (a function that corrects unevenness in the rhythm) is used in the recording. There are two types of Recording Quantize; when you want to obtain absolutely perfect timing, use Grid Quantize. Use Shuffle Quantize when you want to change rhythms featuring shuffle or swing syncopation.

Available settings

OFF: Recording is conducted without Quantize.

Grid: Recording is conducted with Grid Quantize.

Shuffle: Recording is conducted with Shuffle Quantize.

Detailed Settings for Recording Quantize (Grid)

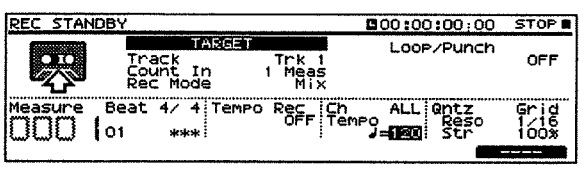
Procedure

1. Press [SEQUENCER], then press [REC].
The "REC STANDBY" screen appears.

2. Press TRACK [1]–[16] to select the track to be used for recording.

* *When recording to Patterns, press [PATTERN] then rotate the [VALUE] dial to select the Pattern number. You can then select the MIDI channel for the data to be recorded by moving the cursor to "Ch."*

3. Set "Qntz" to "GRID."



Reso
This sets the timing resolution in terms of notes.
You can set this to 1/32 (thirty-second note), 1/16T (sixteenth-note triplet), 1/16 (sixteenth note), 1/8T (eighth-note triplet), 1/8 (eighth note), 1/4T (quarter-note triplet), and 1/4 (quarter note).

Str (Grid Quantize Strength)
This sets the degree of correction based on the resolution set in the Resolution parameter.
To have the correction conform exactly to the divisions set in the parameter, set this to 100%. The lower this setting, the less exact the correction applied, with 0% denoting no correction.

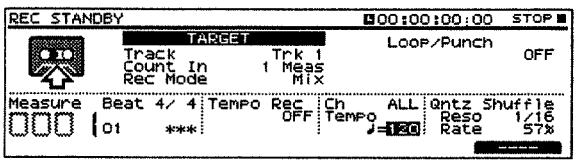
Detailed Settings for Recording Quantize (Shuffle)

Procedure

1. Press [SEQUENCER], then press [REC].
The "REC STANDBY" screen appears.

2. Press TRACK [1]–[16] to select the track to be used for recording.

3. Set "Qntz" to "SHUFFLE."

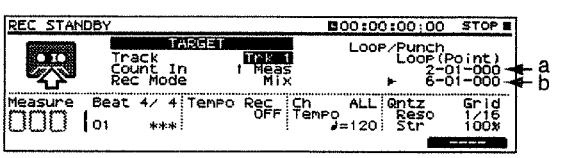


Reso
The timing resolution is set in terms of notes.
This can be set to either 1/8 note or 1/16 note.

Rate (Shuffle Quantize Rate)
This sets the separation of the notes based on the beat division set in the Reso parameter.
At 50%, the timing of the upstroke is set exactly in the middle of the adjacent downstrokes. At 0%, the upstroke comes at the same time as the preceding downstroke. At 100%, the upstroke comes at the same time as the following downstroke.

Beginning Realtime Recording

Here is an explanation of the quickest way to begin Realtime Recording. For more detailed information about the various recording settings, please refer to the previous section "Recording as you perform(p. 40)."



Procedure

1. Press [SEQUENCER].
When beginning to record, execute Song Initialize (p. 39). When carrying out additional recording to any songs already recorded on the disk, select the number for the song to which you want to record.
If recording a Pattern, press [Pattern], move the cursor to the desired Pattern number, then select.

2. Press [REC] to switch to the "REC STANDBY" screen.

* *Recording settings can be made in this screen.*

3. When recording to the Phrase Tracks, move the cursor to "Track" and press TRACK [1]–[16] (With Patterns, move the cursor to "Ch" and select the channel you want to use for recording.).
If you are recording a song, the button indicator for the Phrase Track onto which the performance data is being recorded then lights.

4. Press [PLAY] to begin recording.
When recording starts, the [REC] indicator lights. Additionally, the BEAT indicator flashes red on the downbeat, and flashes green on other beats.

5. When recording is finished, press [STOP].

Instructions for Recording with Auto Punch In

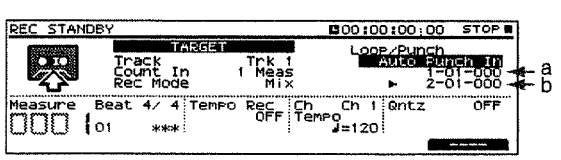
Auto Punch In is a function that specifies the region to be recorded in Realtime Recording.
This function automatically enables record mode within a preselected region.
For example, if when playing back Measure 1 through Measure 16 you want only to record Measure 5, set this to "5-01-000–6-01-000."

Procedure

1. Follow the procedures described in Steps 1–4 of "Begin Loop Recording" to switch to the REC STANDBY window.

2. Move the cursor to "Loop/Punch" and select "Auto Punch In."

3. Set the region below that. The "a" in the figure indicates the point where recording begins, while "b" in the figure is the point where recording ends.



4. Move to a measure before "a" and press [PLAY].
After a few moments of playback, the MC-80 goes into record mode at "a." The MC-80 reverts to playback mode at point "b."

5. When you have finished recording, press [STOP].

Instructions for Recording with Manual Punch In

Manual Punch In allows you to select when to enter recording mode by pressing a button or pedal.
When using a pedal, first refer to "Using a Footswitch" on p. 107 before making the pedal settings.

Procedure

1. Follow the procedures described in Steps 1–4 of "Begin Loop Recording" to switch to the REC STANDBY window.

2. Move the cursor to "Loop/Punch" and select "Manual Punch In."

3. Press [PLAY].
Playback begins.

4. Press [F6 (PUNCH IN)] at the point you want recording to begin.
The MC-80 switches to record mode, and "REC●" appears in the upper right of the display.

5. When you have finished with the recording, press [F6 (PUNCH IN)] once again to return the MC-80 to playback mode. Repeat this procedure to record other parts as needed.

* *You can also use a foot switch for manual punch in. When a foot switch is used for punching in, it can be pressed once for switching to record mode, then pressed once more to switch back to playback mode. For more detailed information and instructions on making the settings, refer to p. 108.*

Switching Tracks During the Recording (Nonstop Loop Recording)

You can switch the destination Phrase Track during Loop Recording. This allows you to record performance data to a number of different Phrase Tracks in the same song without having to repeatedly press [STOP] and [PLAY], so songs can be put together all in one pass.

* *You can not switch between "Pattern" and "Phrase Track".*

* *Overly frequent switching of tracks may affect the proper functioning of playback. Please do not make track selections at short intervals.*

Procedure

1. Begin Loop Recording. (p. 41)
2. You can change the track to be recorded to while recording is in progress by pressing TRACK [1]–[16].

For Patterns, you can move the cursor to "Ch" and change the channel used for recording the performance data.

Checking the Tones and Phrases During Recording (Rehearsal Function)

The Rehearsal function temporarily disables the recording function while recording is in progress. This function conveniently allows you to check the tones and practice Phrases in the next recording.

Procedure

1. While in Realtime Recording, press [REC].

[REC] flashes, showing you that the Rehearsal function is active. At this point, recording does not begin even if the keyboard is played.

2. To return to recording mode, press [REC] once more.

Deleting Unneeded Data During Realtime Recording (Realtime Erase)

Realtime Erase is a function that deletes unneeded data while recording progresses. Especially in Loop Recording, this is a convenient way to delete data without having to stop recording.

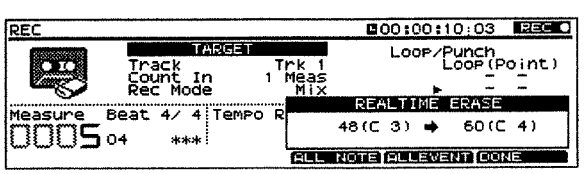
Procedure

1. Press [SEQUENCER], then press [REC].
2. Move the cursor to "Rec Mode" and set this to "MIX."

By pressing TRACK [1]–[16], you can select the track containing the data you want to delete.

3. Press [PLAY].
4. Press [F6 (ERASE)].

The "REALTIME ERASE" window opens.



5. Delete the unneeded data. The following shows four ways to erase the data.

- To erase the sound from a specified key: press the key for the sound you want to erase. The data is erased for the interval that the key is pressed.
- To erase the sound from a specified range of keys: press the upper and lower keys of the range you want to erase. The data is erased for the interval that the keys are pressed.
- To erase all notes from the keys: All notes are erased for the interval that [F4 (ALL NOTE)] is pressed.
- To erase all MIDI events: All MIDI events are erased for the interval that [F5 (ALLEVENT)] is pressed. (Except Pattern Call Message)

6. To return to recording mode, press [F6 (DONE)]; the REALTIME ERASE window is closed.

* *Only MIDI channel data selected in the Track Info window (p. 26) is erased. If this is set to "ALL," only the MIDI keyboard Send channel data is erased.*

* *With Patterns, all channels are erased.*

* *The track cannot be changed while the REALTIME ERASE window is open.*

Recording Song Tempo Changes

You can record tempo changes that occur during the song. Similar to the recording of performances to the Phrase Tracks in real time, tempo changes can also be recorded to the Tempo Tracks.

* *Tempo changes cannot be recorded to Patterns.*

* *Tempo changes cannot be recorded to measures in which no performance data has been recorded. In such cases, first record a Phrase to the measure or measures.*

Procedure

1. Load the song whose tempo you want to change (p. 93).
2. Move the cursor to "Measure," and determine the bigining of recording.
3. Press [REC].
4. Move the cursor to Tempo Rec, and set this to ON.
5. Move the cursor to "Count In," then set the count sound (p. 39).
6. Press [PLAY].

Recording then begins.

7. Change the tempo to match the song.

Input the tempo value with the numeric keys, and when you reach the point where the tempo is to be changed, press [ENTER].

If you want to add ritardando or accelerando, gradually decreasing or increasing the tempo, rotate the

[VALUE] dial to change the tempo.
Additionally, you can also change the tempo by using the Tap Tempo function.

8. When recording is finished, press [STOP].

* *In addition to the methods described above, you can also input tempo change data using the MICROSCOPE screen. For more detailed information and instructions, refer to p. 30.*

Deleting Recordings (Undo/Redo)

If you are dissatisfied with the Realtime Recording just made, you can delete the recording by holding down [SHIFT] and pressing [UNDO/REDO]. By holding down [SHIFT] and pressing [UNDO/REDO] once again, you can restore the recording that was just deleted.

Inputting Data (Step Recording)

In Step Recording, notes and rests are input one by one, just like music written on the staves. And in addition to inputting notes, you can combine patterns to create songs.

Inputting Notes and Rests with a MIDI Keyboard

Procedure

1. Press [SEQUENCER].

2. Load the song you want to record from the disk. (p. 93)

3. Move the cursor to "Measure," then set the point where recording is to begin.

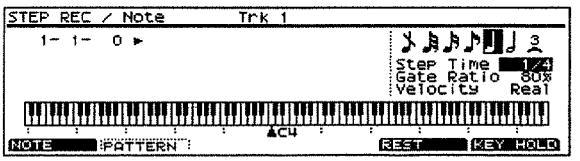
4. Hold down [SHIFT] and press [REC] to call up the "STEP REC STANDBY" screen.

5. Move the cursor to "Track" and select the tracks to be used for recording.

* *If necessary, move the cursor to "Rec Ch," and select the MIDI channel to which the data is to be recorded (however, the channel for recording is ordinarily selected with the selection of each track, in which case this procedure is unnecessary).*

6. Move the cursor to "Rec Mode" and select the mode to be used for recording.

7. Press [F6 (STEP REC)].
The STEP REC screen appears.



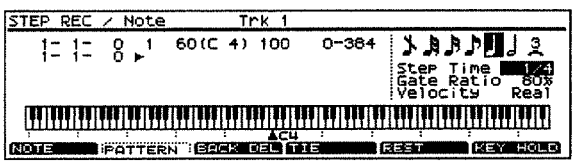
8. Press [F1 (NOTE)].

9. Move the cursor to "Step Time," then use music notation to set the note lengths.
(Musical symbols can also be input with the numeric keys.)

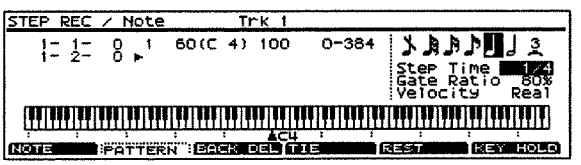
10. Move the cursor to "Gate Ratio" (Gate Time Ratio), then set the gate time (the time from when a note starts playing to when it stops) as a ratio of the Step Time.
Decrease the value for staccato; for tenuto or slur, then increase this value.

11. Move the cursor to "Velocity," then set the keyboard touch, or force with which the keys are to be played.
If you want to input the data using the velocity with which the keys are played, then select "Real." Setting the value between 1 and 127 determines the volume (velocity) of the input, regardless of the velocity actually used. At this time, a setting of 60 is equivalent to "p" (piano), 90 to "mf" (mezzoforte), and 120 to "f" (forte).

12. Press the key.
The note's MIDI channel (Ch), note name (Note), velocity (Vel), and gate time (Gate) are indicated in the display.



13. When all the keys are released, the song advances by the selected Step Time interval.



14. Repeat Steps 8–12 to input the other notes.

15. When you have finished with Step Recording, press [EXIT] or [STOP].

This returns the SONG PLAY screen to the display.

Inputting Chords

After setting the parameters, play the chords. The chord is input, and then the next data can be input.

Inputting Ties

After setting the Step Time for the notes to be connected with a tie, press [F4 (Tie)] to input the tie; the MC-80 is then ready for the next data to be input.

For example, if you want to tie a half note and a quarter note, first input the half note. Then, input the Step Time for the quarter note, and then press [F4 (Tie)].

Inputting Dotted Notes

To input a dotted note, first input the note without the dot, then extend the note only by the length corresponding to the value of the dot.

Example: To input a dotted quarter note, first input the plain quarter note. Then, by setting the Step Time to an eighth note (i.e., half of a quarter note) and pressing [F4 (TIE)], only the length of the note is extended.

Inputting Rests

To set rests with the same Step Times as equivalent notes, press [F5 (Rest)] after inputting the Step Time; the MC-80 is then ready for the next data to be input.

Deleting Notes

Pressing [F3 (BACK DEL)] deletes the immediately preceding note input.

After deletion, play it back to confirm that the sound has been deleted.

<The Relationship Between Notes and Gate Time>

If the Gate Ratio parameter is set to 80%, the Gate Time equals 480 x 0.8, or 384.

Step Recording Without Using a MIDI Keyboard

Even without a MIDI keyboard, you can still perform Step Recording using only the MC-80 itself.

Steps 1–9 are identical to those in "Inputting Notes and Rests with a MIDI Keyboard" (p.**). The actual input process differs only from Step 8 onward.

Procedure

Use the MC-80's key input to put it into Step Recording mode.

11. When inputting chords, press [F6 (KEY HOLD)].

12. Input the note number, and press [ENTER].

When [F6 (KEY HOLD)] is pressed, the song advances by the selected Step Time interval.

13. Repeat Steps 7-12 to input further steps.

14. When you have finished inputting the steps, press [EXIT] or [STOP].

This returns the SONG PLAY screen to the display.

Using a Pattern as Part of a Song

You can use Patterns as parts of Phrases within songs. When creating a song by combining prerecorded Patterns, use Step Recording to assign the Patterns to the Phrase Tracks. Called Pattern Call Event, this technique records data specifying which Patterns are to be played to the song's tracks.

Procedure

1. Press [SEQUENCER].

The "SONG PLAY" screen appears in the display.

2. Move the cursor to "Measure," then set the point at which recording is to begin.

3. Hold down [SHIFT], and press [REC].

4. Press [REC] or [F6 (STEP REC)].

The "STEP REC" screen appears in the display.

5. Press TRACK [1]–[16] to select the Phrase Track to which the Pattern is to be assigned.

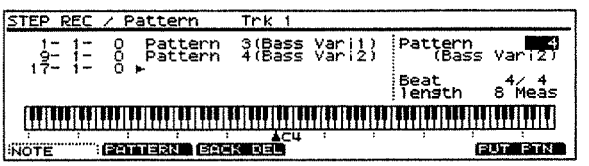
6. Press [F2 (Pattern)].

7. Select the number for the Pattern you want to assign.

8. Press [F6 (Put Ptn)].

A Pattern Call Message is recorded, the Pattern proceeds for the measure length set for the Pattern, and then the MC-80 is ready for input of the next Pattern.

* *It is not possible to input a blank pattern.*



9. Repeat Steps 7 and 8 to continue inputting the Patterns.

When you have finished with Step Recording, press [EXIT] or [STOP].

This returns the SONG PLAY screen to the display.

* *If You Make a Mistake Inputting Data...*

  Pressing [F3 (BACK DEL)] deletes the immediately preceding Pattern Call Message.

* *When a Pattern is assigned to a Phrase Track, the Pattern beat is disregarded, and the Pattern follows the beat set in the Beat Track. If the Pattern beat and the Beat Track settings differ, the measure lengths may not match, which may result in timing discrepancies in the performance. In such instances, go back and make the beat settings in the Beat Track again (p. 39).*

* *You can also use Microscope Edit to add Pattern Call Messages. For more detailed information and instructions, refer to p. 64.*

* *Only one Pattern can be used for simultaneous performances on one track. To play multiple Patterns simultaneously, input a Pattern Call message on a separate track.*

* *Pattern Call messages cannot be inserted within Patterns.*

Deleting Input (Undo/Redo)

By holding down [SHIFT] and pressing [UNDO/REDO], you can delete data at any point within the song, from beginning to end. Holding down [SHIFT] and pressing [UNDO/REDO] once more then returns the data to the immediately preceding conditions.

Saving Songs to the Disk

Songs are recorded to the MC-80 only temporarily. Any song in the MC-80 itself is lost when the power is cut or turned off, or when a different song is loaded. To preserve the song, save it to disk.

Saving Songs

Save your MC-80 songs to a disk. You can save the songs as special MC-80 Song Files or as Standard MIDI Files.

•When saved as Song Files, the following settings are saved.

(Some settings are not saved when the song is saved as a Standard MIDI File.)

	MC-80	SMF
Song	Yes	Yes
Patterns made in the song	Yes	Note 1
Marker settings	Yes	No
Repeat settings	Yes	No
TRACK INFO settings	Yes	Note 2
Phrase Sequence settings	Yes	No
Transpose settings	Yes	No

Note 1: When the song is saved as an SMF, the Patterns used in the song are saved as track data.

Note 2: When the song is saved as an SMF, no muted tracks are saved.

Note 3:Tempo Track Mute On and Off settings cannot be saved.

Procedure

1. Insert a disk into the disk drive.

2. Press [SEQUENCER].

3. Press [F5 (SAVE)].

This appears the screen for selecting the type of file to which the song is to be saved.

4. Use [F4]–[F6] to select one of the file types shown below.

F6: MC-80 only song file
F5: Standard MIDI File Format 1
F4: Standard MIDI File Format 0

5. When you have decided which file type to use, press [F6 (OK)].

- When a song is first saved, the window for naming the file opens at this point. In this case, carry out Steps 6 and 7, shown below, to name the file.
- If updating the save, proceed directly to Step 9.

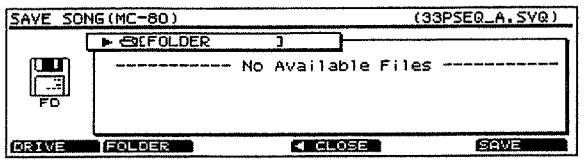
6. Select the character position with the cursor, then select the characters by pressing [INC/DEC] or the numeric keys, or by rotating the [VALUE] dial.

7. When you have finished inputting the name, press [F6 (OK)].

8. Select the folder to which you want to save the file.

The name in the upper left of the display refers to the folder currently selected as the save destination. If the file is being saved for the second or later time, the folder in which it was saved before is indicated.

- To open any folder that may reside within the one currently displayed, move the cursor to it and press [F5 (OPEN ▶)].
- Conversely, to select the folder in which the currently displayed folder resides, press [F4 (◀ CLOSE)].



9. Press [(F6 (SAVE)].

10. If when a song is first saved a file with the same name is already on the disk, the message "File '(File Name)' already exists!" appears in the display. If you want to replace the previous file with the new one, deleting the older file in the process, press [F6 (REPLACE)]. If you do not want to delete the file on the disk, press [F1 (CANCEL)] to cancel the save, then after first giving the new file a different name, save it to the disk.

The extension ".SVQ" is automatically added when the song is saved. (If the data is saved in SMF, the extension ".MID" will be added.)

* *Data in SMF files loaded onto the MC-80 that have copyright notices (p. 58) cannot be saved.*

* *Data in SMF files loaded onto the MC-80 that have copyright notices (p. 58) can be saved in MC-80 format. However, the data cannot be then saved again in SMF format.*

Creating Folders

By creating folders, you can save files in similar groups.

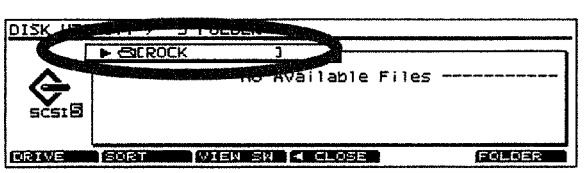
Procedure

1. Press [TOOLS], and then press [F5 (DISKUTIL)].

2. In [F6 (MENU)], select "FILE MENU," and then press [F5 (FOLDER)].

The DISK UTILITY/5 FOLDER screen appears.

Next, decide the location for the new folder. Create the new folder in the folder whose name appears in the upper left of the display.



* *When you want to change a folder's location, carry out Step 3. If the present location is satisfactory, proceed to Step 4.*

3. To open any folder that may reside within the current folder, move the cursor to it and press [F5 (OPEN ▶)]. Conversely, to select the folder in which the current folder resides, press [F4 (◀ CLOSE)].

4. When the location has been decided, press [F6 (FOLDER)].

The screen for naming the new folder opens.

5. Use the cursor to select the character positions, then either press [INC/+], [DEC/-], or the numeric keys, or rotate the [VALUE] dial to select the characters.

6. When you have finished naming the folder, press [F6 (OK)].

This creates the new folder.

* *When creating folders within other folders, you can go a maximum of 9 levels deep.*

* *Folders created on disks formatted by the MC-80 will also be recognized by the Mac OS and Microsoft Windows operating systems.*

Chapter 5. How to Use Patterns

What is a Pattern?

A Pattern is a unit of data that contains one Phrase Track. Patterns differ from songs in the following ways.

Patterns have one Phrase Track.

You can mix the data from MIDI Channels 1–16 onto a single Phrase Track. This makes it possible to complete a performance with only a Pattern. However, Patterns should be made as simple as possible, whereas using songs or phrase sequencer (p. 51) to create ensemble works lets you enjoy putting together various combinations of Phrases.

A maximum of 100 Patterns can be made.

You can create up to a maximum of 100 Patterns in each song.

Patterns are saved along with each song when the song is saved.

Patterns are not used independently of songs, but are included with them. For example, if you create a number of Patterns for a Phrase Sequence, then to save this group of Patterns, the song current at the time the Patterns were created is saved. Thus, all of the Patterns are saved to the disk at one time.

(However, when saving Standard MIDI File (SMF) format, the Patterns used in a song are converted to song track data before saving. Furthermore, Patterns not used in the song are not saved.)

The track buttons function as mute buttons for each channel.

This means Track Mute, Solo, and Minus One function individually for each channel. (With Patterns, all track buttons are lit, regardless of the content of the data.)

Differences between Pattern's Track and Song's Track

Refer to the description of the song recording procedure (p. 38) for information and instructions on recording methods. However, the explanation below points out the differences between the procedures for recording songs and for recording Pattern.

•The PATTERN PLAY Screen

Pressing [SEQUENCER] and then pressing [PATTERN] appears the basic screen (the PATTERN PLAY screen) for the Pattern (pressing [PATTERN] again then appears the SONG PLAY screen).

•Tracks

You can record the performance data for all MIDI channels on one track. For more on the recording process, refer to p. 38.

•Beat Settings

Just as with song Phrase tracks, the Beat settings are made in the Beat Track MICROSCOPE screen.

For more on the process for setting the rhythm, refer to p. 39.

•Tempo Settings

Patterns contain no specially designated Tempo tracks. Patterns are played back at the song's current tempo.

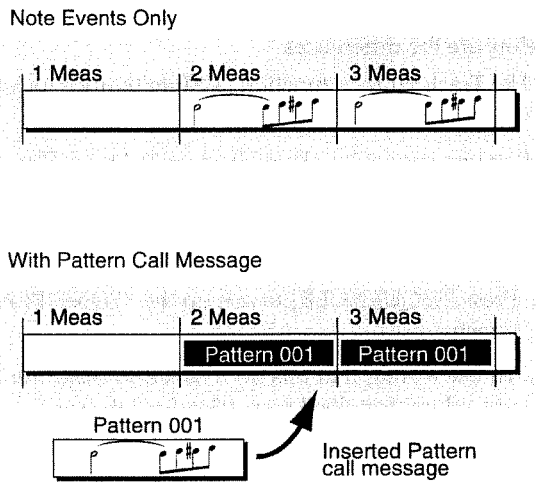
Patterns can be used in song tracks, and can be used to play along with songs in Phrase Sequences. In these cases, it is to allow synchronization of the Pattern with the regular tempo of the song.

What You Can Do by Using Patterns

There are a number of applications for Patterns, including uses in conjunction with songs and use of the features particular to the Patterns.

Using a Pattern as One Part of a Song Performance

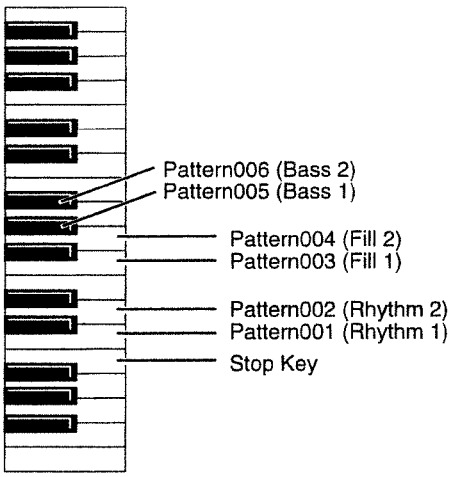
Patterns are a very efficient means of ordinary short Phrases that are repeated. For example, when used as one part of a song, Phrase that repeat a number of times are made with Patterns. Therefore, creating a Pattern for repeated used in a song means not only do you not have to record that part over and over, but it also reduces the size of the file as well.



Using a Pattern as One Phrase of a Phrase Sequence

Phrase Sequence is a convenient function that lets you play back Phrases by pressing one key. Phrases used in this function use Patterns. You can set which number Pattern is to be played by each key, enjoy putting together a variety of different combinations of Phrases, and have them play along with the playback of whatever song is being played back.

Example



Playing Back Patterns

The playback method for Patterns is little different than that for songs.
Below are the differences.

- The Track buttons function as Mute buttons for each channel.
- Patterns cannot be played back with Quick Play. (p. 27)

Procedure

1. Press [SEQUENCER] to call up the "SONG PLAY" screen.

2. To use a song that has been saved to disk, use the procedure described on p. 93 to load the song.

To use a song during Quick Play, press [F6 (LOAD)] to load the song.

3. Press [SEQUENCER], turning on the indicator above the button, then press [PATTERN].

The "Pattern Play" screen appears.

4. Move the cursor to the Pattern number "PTN OOO" and select the number for the Pattern to be played back.

5. Press [PLAY].

Playback begins. Press the [STOP] button to stop the Pattern during playback.

* *The other playback functions and procedures are that same as those used for songs. Please refer to p. 27.*

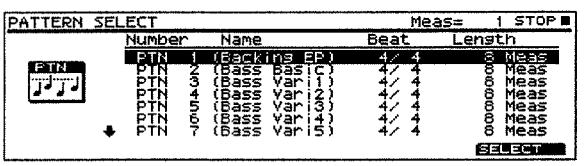
Selecting a Pattern from a list

You can select patterns from a list.

1. Load the song that includes the pattern that you wish to use. (p. 93)

2. Press [SEQUENCER], and then press [PATTERN].

The PATTERN PLAY screen will appear.


PATTERN SELECT
Meas= 1
STOP
Number
Name
Beat
Length
PTN 1 (Backing EP) 4/ 4 8 Meas
PTN 2 (Bass Bas C) 4/ 4 8 Meas
PTN 3 (Bass Var 1) 4/ 4 8 Meas
PTN 4 (Bass Var 2) 4/ 4 8 Meas
PTN 5 (Bass Var 3) 4/ 4 8 Meas
PTN 6 (Bass Var 4) 4/ 4 8 Meas
PTN 7 (Bass Var 5) 4/ 4 8 Meas
SELECT

3. Press F6 (PTN SEL).

The PATTERN SELECT screen will appear.

4. Use the VALUE dial to select the pattern that you wish to playback.

5. Press [F6 (SELECT)].

The pattern will be selected, and you will return to the PATTERN PLAY screen.

* *Instead of step 5, you can press [PLAY] to playback the pattern while you are still in the PATTERN SELECT screen.*

Chapter 6. Playing Phrases with One Key (Phrase Sequence)

What is Phrase Sequence?

The Phrase Sequence function assigns a Pattern to a single key on the keyboard, and plays back that Pattern when that one key is pressed.
For example, by pre-assigning a Phrase too difficult to play live to a key, you can then play that Phrase, in time, with one finger.
Since you can also play back up to eight Patterns simultaneously, you can create separate Patterns for drums, bass, keyboards, and other instruments, and combine them to create new songs. What's more, you can then record these performances to the song's Phrase Tracks.

Making the Basic Settings

To start, first record a Pattern that you can use as material for the Phrase Sequence (p. 38).
When the Pattern is ready, assign the Pattern to the keys, and make the settings for playing back the Pattern. These settings are made for each song, and are saved together with the song when it saved as an MC-80 Format song.

Procedure

1. Press [SEQUENCER] to call up the "SONG PLAY" screen.
2. If using a song that has been saved to the disk, then use the procedure described on p. 93 to load the data. When using a song during Quick Play, press [F6 (LOAD)] to load the song.
3. Press [F1 (SETUP)].
4. Press [F3 (PHRASE)]; the display switches to the PHRASE SEQUENCE screen.

Make the settings, using the Steps 5–8 shown below, for each key.

5. Press the key to be set.
6. Move the cursor to "Pattern," then select the Pattern (p. 51).
7. Move the cursor to "Playback Mode," then select the playback method for the Pattern (p. 52).
8. Move the cursor to "Mute Group," and set the Pattern grouping (p. 52).

The settings in Steps 9 and 11 below are for the entire keyboard.

9. Move the cursor to "Trigger Quantize," then set the method by which playback of the Pattern is to begin (p. 52).
10. Move the cursor to "Velocity Sens," then set the Pattern's playback volume (p. 52).

When the settings are completed, press [EXIT] to return the "SONG PLAY" screen to the display.

11. Press [PHRASE SEQUENCE].

This turns the Phrase Sequence on, lighting the indicator.

12. Press a key that has been set to perform Phrase Sequence.

* *When not using the Phrase Sequence function, press [PHRASE SEQUENCE], turning the indicator off again.*

Phrase Sequence Parameters

Key (Note)

This indicates the key currently set. When a key on an external MIDI keyboard is pressed, the key name is displayed. Additionally, settings for the key can be made by moving the cursor to Key (Note), then rotating the [VALUE] dial or pressing the [INC/DEC] buttons.

* *The Pattern parameter, Playback Mode parameter, and Mute Group parameter can be set for each key.*

Pattern

This selects the Pattern assigned to the key.

Range

PTN 1–100: This determines the Pattern number assigned to the key. The Pattern name appears in parentheses.

OFF: This selects the keys that do not use Phrase Sequence (ordinary instrument sounds are on keys used for playing).

STOP: This functions as the key for stopping playback of the Pattern (the Stop Trigger).

* *The status of the keyboard can be checked in the graphic representation of the keyboard in the display. The key to which the Pattern is assigned by "I," and the STOP key to "+." Keys with no marking at all are OFF.*

Playback Mode

This setting determines whether the Pattern used in the Phrase Sequence is played back normally or repeated.

Available settings

Loop1: Playback of the Pattern is repeated for as long as the key is pressed.

Loop2: Playback of the Pattern is repeated. To stop playback, the Stop Trigger key is pressed, or the same key used to start the Pattern is pressed once more.

One Shot: The Pattern plays only once. Even if the key is released, the Pattern continues to play until the end of the Pattern is reached.

Mute Group

Range

OFF, 1–31:

This function sets specific Patterns so that they don't play simultaneously. For example, to set a Pattern that is assigned to C3 and one that is assigned to G3 so that they do not play at the same time, assign the same Mute Group number to both C3 and G3.

Up to 31 Mute Groups can be set. Leave any keys that are not to be selected for the Mute Group set to OFF.

•Each of the following settings is made once for a song. The settings are applied to all of the keys.

Trigger Quantize

This setting determines a Pattern's playback method when the key is pressed during playback of the song. Even if the timing with which a key is pressed is a little off, you can match the rhythms of the performance of the song and the performance of the Phrase Sequence.

Available settings

Realtime: The Pattern is played back as soon as the key is played.

At Beat: If the key is pressed after the actual beat during playback of the song, the Pattern is played back from the following beat.

At Bar Line: If the key is pressed after the beginning of the measure during playback of the song, the Pattern is played back from the beginning of the following measure.

Velocity Sens

This determines the connection between the key velocity with which the keys are played and the volume of the Pattern.

Available settings

OFF: The volume recorded to the Pattern is played back without changes.

With the three settings below, the volume of the pattern changes with the pressure with which the keys are played.

LOW: Least volume change based on the pressure with which the keys are played.

MID: Medium change based on the pressure with which the keys are played.

HIGH: Greatest volume change based on the pressure with which the keys are played.

Performing Using Phrase Sequence

Phrase Sequences can be used, regardless of whether the song is stopped or not. If phrase sequence settings have been made in an MC-80 format song, you can use this even while quick-playing the song.

Procedure

1. Press [SEQUENCER].
2. Confirm that preparations for the song's Phrase Sequence function have been properly made (p. 51).
3. Press [PHRASE SEQUENCE], lighting the indicator.

The Phrase Sequence function is now on.

4. If playing along with the song, press [PLAY] to begin playback.
5. Press the key to which the Pattern is assigned, playing back the Pattern.

If the Playback Mode parameter (p. 51) is set toLoop2, press the key once more to stop playback of the Pattern.

If you want to cancel playback of the Pattern before it is completed, press the key that has been set as the Stop Trigger (p. 51).

* *With the Phrase Sequence function, up to eight Patterns can be played simultaneously.*

* *If the song is saved in MC-80 format while [PHRASE SEQUENCE] is on, this status is also saved. Therefore, you can always perform the song using the Phrase Sequence function when the song is selected. However, when saved in Standard MIDI File (SMF) format, the Phrase Sequence ON/OFF and Patterns are not saved.*

Recording Performances with Phrase Sequence

Performances using the Phrase Sequence function can

also be recorded to the Song Tracks in Realtime Recording, just as with normal performances. In this case, the Patterns are converted into actual performances and then recorded.

Procedure

1. Using the procedure described on p. 51, ready the song for Phrase Sequence.
2. Using the procedure described on p. 40, prepare for Realtime Recording.
3. Begin recording.

* *If the "Count In parameter (p. 39)" is set to "Wait Note," recording normally begins when the first key is pressed; however, recording does not start if the first key pressed has been assigned a Phrase Sequence role.*

4. When the recording is finished, press [STOP].

<Points on Using the Phrase Sequence Function>

• Only Note Messages are Recorded to the Patterns

When playing back Patterns in Phrase Sequence, recording great numbers of MIDI Messages with the Pattern delays expression of the Pattern. Recording all MIDI Messages other than Note Messages to the Phrase Tracks allows correct timing of note expression during performances.

• Synchronizing Patterns in Playback

To synchronize multiple Patterns for playback, play back the song. Setting "Trigger Quantize" to the song's beats and measure bars, allows you to achieve proper synchronization of multiple Patterns.

However, the song is not played back if no performance data is recorded to the Phrase Tracks, so the Patterns cannot be synchronized and played back. In such instances, insert a number of blank measures on the Phrase Tracks, and then proceed with Loop Play.

Chapter 7. Automatic Arpeggio Function (Arpeggiator)

What is the Arpeggiator?

The Arpeggiator provides for the play of the various notes in chords. With the Arpeggiator, you can play arpeggios that use the component notes of a chord, just by pressing the chord. Since the arpeggios are Phrases performed at the tempo set for the song, you can play a variety of different arpeggios just by pressing chords along with the song. Additionally, not only can you get ordinary arpeggios, but you can set the function to play guitar arpeggios using "cutting" and "strumming" performance techniques.

Basic Operation

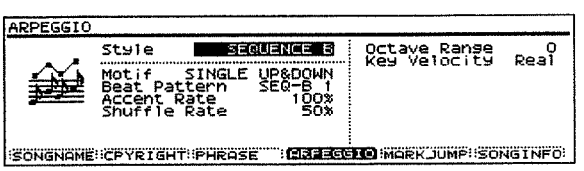
First, here is a simple procedure to let you enjoy Arpeggiator right away.

Procedure

1. Press [ARPEGGIATOR].
The button indicator lights, and the Arpeggiator is turned on.

2. Play a chord to perform an arpeggio.
Next, try changing the way the arpeggio is played.

3. Press [SEQUENCER], then press [F1 (SETUP)] followed by [F4 (ARPEGGIO)].
The "Arpeggio" screen appears.



4. Move the cursor to "Style."
Rotate the [VALUE] dial or press [INC/DEC] to change the way the arpeggios are performed (please see the next paragraph "Style" for an explanation of each Style).

* *To return the previous screen, press or [EXIT].*

* *To turn off the Arpeggiator function, press [ARPEGGIATOR] once more; the indicator light goes off.*

This returns the keyboard to normal instrumental performance mode.

Style

Available settings

1/4: Beats with a quarter note interval.
1/6: Beats with a quarter-note triplet interval.
1/8: Beats with an eighth note interval.
1/12: Beats with an eighth note triplet interval.
1/16: Beats with a sixteenth note interval.
1/32: Beats with a thirty-second note interval.
GLISSANDO: Intervals between the lowest and highest notes are played in thirty-second note with glissando.
SEQUENCE A: Sequence pattern often used for Techno music.
SEQUENCE B: Sequence pattern with short gate time.
SEQUENCE C: Sequence pattern with various gate times combined.
SEQUENCE D: Sequence Pattern that can also be used in bass Phrases.
ECHO: Echo-type Style.
SYNTH BASS: Typical synth bass pattern; Octave range set to +1; bass patterns can be performed with one key.
SLAP BASS A: Slap bass Style.
SLAP BASS B: Lighter Slap bass Style.
WALK BASS: Walking bass Style.
RHYTHM GTR A: Rhythm guitar Style (with a single note).
RHYTHM GTR B: Rhythm guitar Style (with a chord).
RHYTHM GTR C: A style adding variation to a rhythm guitar.
RHYTHM GTR D: A style adding variation to a rhythm guitar.
RHYTHM GTR E: A style adding variation to a rhythm guitar; chords played with timing slightly offset for more realistic guitar sound
3FINGER GTR: Three-finger folk guitar Style.
STRUMMING GTR: Guitar chords strummed both up and down; especially effective with five or six notes played.
KBD COMPING A: Piano backing Style.
KBD COMPING B: Keyboard backing Style.
KBD COMPING C: Triple meter Style.
KBD COMPING D: Swing waltz Style.
KBD COMPING E: Reggae Style; especially effective with three notes played.

PERCUSSION: Style for percussion instrument tones
HARP: Harp performance Style.
SHAMISEN: "Shamisen" performance Style.
BOUND BALL: Bouncing ball rhythm Style.
RANDOM: Sixteen beat rhythm with sounds played in random order.
BOSSANOVA: A style with bossanova guitar cutting. Hold 3–4 notes for best results. You can increase the BPM and use this as a Samba.
SALSA: Typical salsa Style. Hold 3–4 notes for best results.
MAMBO: Typical mambo Style. Hold 3–4 notes for best results.
LATIN PERCUSION: A rhythm style with Latin percussion instruments such as Clave, Cowbell, Clap, Bongo, Conga, Agogo etc.
SAMBA: Typical samba Style. Use for rhythm patterns or bass lines.
TANGO: Typical tango rhythm Style. Hold the root, 3rd and 5th of a triad etc. for best results.
HOUSE: A style for house piano backing. Hold 3–4 notes for best results.
LIMITLESS: Parameter settings for Motif, Beat Pattern, Shuffle Rate, and Accent Rate can be freely combined and recorded

Changing Arpeggio Tempos

Arpeggio tempos are set automatically when the selected song tempo is changed. The song and arpeggio tempos are matched at all times so that the arpeggios can played in time with the song playback tempo.

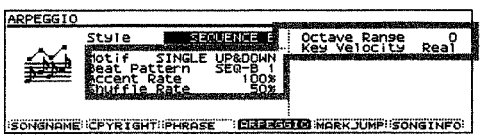
Procedure

1. Press [TEMPO].
2. Rotate the [VALUE] dial or press [INC/DEC] to set the tempo.

When you have finished setting the tempo, press [TEMPO] again to close the "TEMPO" window.

Making Even More Detailed Arpeggiator Settings

This describes all parameters for the "ARPEGGIO" screen. By adjusting the settings, you can create completely original arpeggios.



Parameters Set in "Style"

A total of 6 parameters can be set for the Arpeggiator. Of these, setting the **Style** parameter gives you the most effect. When "Style" is selected, the "Motif," "Beat Pattern," "Accent Rate," and "Shuffle Rate" parameters are set automatically. For example, for the most suitable Phrases for synthesizer tones (SEQUENCE A, B, C, D) or guitar (RHYTHM GTR A, B, C, and others), the most appropriate values for the four parameters above are selected.
After selecting the arpeggio you like with "Style," go on to make even more detailed settings for the "Motif," "Beat Pattern," "Accent Rate," and "Shuffle Rate" parameters.

Settings Content

Motif

This sets the order in which the notes of the chord are played. The choices are shown below.

* *When LIMITLESS is selected for the Style, all parameters may be selected. When Style is not set to LIMITLESS, only parameters the most suitable to the Style can be selected, which allows you to create variations of the Styles that appeal to you.*

SINGLE UP: Notes you press will be sounded individually, beginning from low to high.
SINGLE DOWN: Notes you press will be sounded individually, from high to low.
SINGLE UP&DOWN: Notes you press will be sounded individually, from low to high, and then back down from high to low.
SINGLE RANDOM: Notes you press will be sounded individually, in random order.
DUAL UP: Notes you press will be sounded two at a time, beginning from low to high.

DUAL DOWN: Notes you press will be sounded two at a time, beginning from high to low.
DUAL UP&DOWN: Notes you press will be sounded two at a time, from low to high, and then back down from high to low.
DUAL RANDOM: Notes you press will be sounded two at a time, in random order.
TRIPLE UP: Notes you press will sound three at a time, from low to high.
TRIPLE DOWN: Notes you press will sound three at a time, from high to low.
TRIPLE UP&DOWN: Notes you press will sound three at a time, from low to high and then back down from high to low.
TRIPLE RANDOM: Notes you press will sound three at a time, in random order.
NOTE ORDER: Notes you press will be sounded in the order in which you pressed them. By pressing the notes in the appropriate order you can produce melody lines. Up to 32 notes will be remembered.
GLISSANDO: Each chromatic step between the highest and lowest notes you press will sound in succession, repeating upward and downward. Press only the lowest and the highest notes.
CHORD: All notes you press will sound simultaneously.
BASS+CHORD 1–5: The lowest of the notes you play will sound, and the remaining notes will sound as a chord.
BASS+UP 1–8: The lowest of the notes you play will sound, and the remaining notes will be arpeggiated.
BASS+RANDOM 1–3: The lowest of the notes you play will sound, and the remaining notes will sound in random order.
TOP+UP 1–6: The highest of the notes you play will sound, and the remaining notes will be arpeggiated.
BASS+UP+TOP: The highest and the lowest of the notes you play will sound, and the remaining notes will be arpeggiated.

Beat Pattern

This sets the type of rhythm from the list shown below. Accents and note length differ in each one, providing a variety of rhythms with which you can play.

* *When LIMITLESS is selected for the Style, all parameters may be selected. When Style is not set to LIMITLESS, only the parameters that are most suited to the Style can be selected, which allows you to create variations of the Styles that appeal to you.*

1/4
1/6
1/8
1/12
1/16 1–3
1/32 1–3
SEQ-A 1–7
SEQ-B 1–4
SEQ-C 1–2
SEQ-D 1–8
ECHO 1–3
MUTE 1–16
STRUM 1–8
REGGAE 1–2
REFRAIN 1–2
PERC 1–4
WALKBS
HARP
BOUND
RANDOM
BOSSA G
SALSA B
SALSA-P 1–3
MAMBO B
MAMBO BRS
CLAVE
REV CLA
GUIRO
SAMBA AGO
SAMBA-B
TANGO-B 1–2
TANGO-ACD
TANGO-SNA
HOUSE-P
HOUSE-B

Accent Rate

By adjusting the accent strength and note length, you can change the "groove" of the performance. Setting this to 100% gives the rhythm the most groove.

Shuffle Rate

Adjusting the syncopation between the beats can give you a "shuffle" rhythm. When set to 50%, the sounds are played at regular intervals; the higher the setting, the more bounce the rhythm has.

Octave Range

This sets the octave range.

Range

+1 – +3: The range of the chords played are also performed one to three octaves up.
0: The sound is played within the range of the chords played.
-3 – -1: The range of the chords played are also performed one to three octaves down.

Key Velocity

This sets the volume of the chord when it is played.

Range

REAL: The sound is played at the volume corresponding to the velocity used to play the chord.
1–127: The sound is played at a fixed volume determined by the selected value.

Combining with Other Functions

Holding Arpeggios (Hold)

You can also use a hold pedal connected to an external MIDI keyboard when playing arpeggios. The arpeggio continues to play while the pedal is pressed, and stops when the pedal is released.

Procedure

1. Connect an optional hold pedal (such as the DP-2, DP-6, or FS-5U) to the external MIDI keyboard's HOLD jack.
2. Play a chord while pressing the pedal.
3. When you release the pedal, the arpeggio stops.

Recording Arpeggiator Performances

Arpeggiator performances can also be recorded to Phrase Tracks 1–16 using Realtime Recording.

Procedure

1. Press [ARPEGGIATOR], setting the MC-80 up to play arpeggios (p. 54).

Confirm that the Arpeggiator settings have been correctly set (p. 54).

2. Put the MC-80 into Realtime Recording standby mode (p. 40).
3. Begin recording.

As you play the chords, arpeggios are performed, and the performance is recorded.

4. When you have finished recording, press [STOP].

Chapter 8. Editing Songs and Patterns (Edit)

Loading Songs for Editing Into the MC-80

To edit or conduct additional recording on songs saved to disk, first load the song into the MC-80.

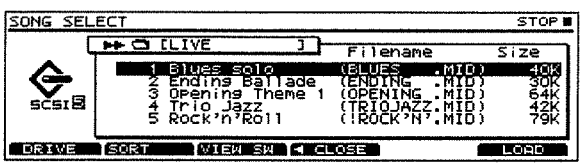
Procedure

1. Insert the disk containing the song into the disk drive.
2. Press [SEQUENCER], then press [SELECT].

The "SONG SELECT" screen appears.

3. Press [F1 (DRIVE)] and select the drive.
4. To select a song within a folder, move the cursor to the folder and press [F5 (OPEN ▶)].

The songs contained in the folder appear in the display (see figure).



5. Press [CURSOR], then move the cursor to the name of the song to be performed.
6. Press [F6 (LOAD)].

The song is loaded onto the MC-80.

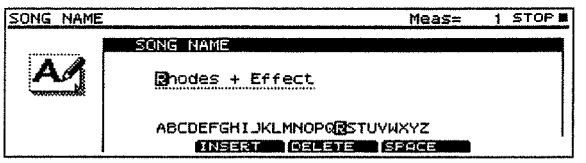
Making Settings for Each Song

The settings below are saved to the disk as song settings.

Song Name

Use this procedure to name a song or change an existing song name. This song name is different than the file name applied when the song is saved to the disk.

* *A file name (p. 91) is absolutely necessary for saving a song to a disk: it is linked to the song name. Thus, the song name is like writing a memo. Song names may contain up to fifteen characters (file names may contain a maximum of eight characters), making it convenient to include the file name in the song name.*
* *Some SMF data available on the market is copyrighted material. When loading such songs, a message such as "(C) 1998 Roland Corporation" appears in the display. This copyrighted data cannot be altered.*



Procedure

1. Load the song to be named (p. 93).
2. Press [SEQUENCER], followed by [F1 (SETUP)], then press [F1 (SONG NAME)].

The "SONG NAME" screen appears in the display.

3. Press [CURSOR (Left)] or [CURSOR (Right)] to move the cursor to the positions where the characters are to be input.
4. Rotate the [VALUE] dial or press [INC/DEC] to select the characters.
5. When you have finished naming the song, press [F6 (OK)] to return to the "SONG PLAY" screen.

* *You can also use the numeric keys to input alphabetic characters and spaces in Step 6. For example, each time the "1" key is pressed, the input is changed in the following order: "1→A→B→C→1..."*
* *By holding down [SHIFT] and pressing any of the Ten Key buttons 1 through 5, you can change the font used for names in the SONG PLAY screen and PATTERN PLAY screen. This change remains effective until the power to the MC-80 is turned off.*

Adding Song Copyright Information

You can input copyright information to be displayed in the songs you have created.

* *Some commercial SMF data already has copyright information displayed. The copyright displays of these works cannot be altered. And data that includes a copyright notice cannot be copied to another disk, nor can it be saved in Standard MIDI File format.*

Procedure

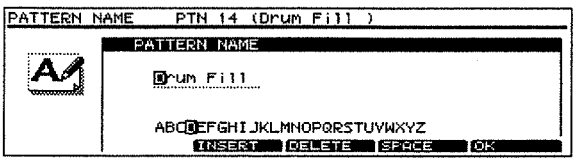
1. Load the song for which copyright information is to be written (p. 93).
2. Press [SEQUENCER], followed by [F1 (SETUP)], then press [F2 (CPYRIGHT)].
3. Press [CURSOR (L)] or [CURSOR (R)] to move the cursor to positions where you want the characters to be input.
4. Press [INC/DEC] or rotate the [VALUE] dial to select the characters.

5. When you have finished adding the text, press [EXIT] to return the "SONG PLAY" screen.

* *You can also use the numeric keys to input alphabetic characters and spaces in Step 5. For example, each time the "1" key is pressed, the input is changed in the following order: "1→A→B→C→1..."*

Pattern Name

Use this procedure to name a Pattern or change an existing Pattern name.
Up to ten characters may be selected for the Pattern name.



Procedure

1. Press [SEQUENCER].
2. Press [PATTERN].
3. Move the cursor to the Pattern number, and select the Pattern to be named.
4. Press [F1 (PTN NAME)] to switch to the "PATTERN NAME" screen.
5. Press [CURSOR (Left)] or [CURSOR (Right)] to move the cursor to the positions where the characters are to be input.
6. Press [INC/DEC], or rotate the [VALUE] dial to select the characters.
7. When you have finished naming the Pattern, press [F6 (OK)] to return to the "PATTERN PLAY" screen.

* *By holding down [SHIFT] and pressing any of the Ten Key buttons 1 through 5, you can change the font used for names in the SONG PLAY screen and PATTERN PLAY screen. This change remains effective until the power to the MC-80 is turned off.*

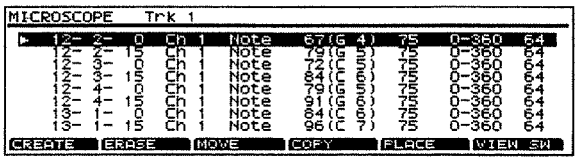
Making Edits to Performances One at a Time (MICRO EDIT).

What is Micro Edit?

The editing of individual MIDI Messages, tempo information, and other performance data recorded to a song is referred to as Micro Edit.

Displaying the MICROSCOPE screen.

Each piece of the recorded performance data can be checked one by one in the "MICROSCOPE" screen. In addition, switch to this screen when using the Micro Edit function.



The performance data and the positions (measure, beat, and clock) at which performance data is recorded are indicated on each line. For more efficient use of the screen, the display of points containing no performance is contracted.

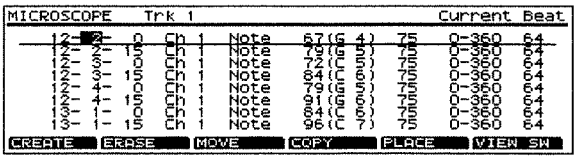
* *For further descriptions of the different kinds of performance data, refer to the sections "Data Controlled in Phrase Tracks and Patterns," "Data Controlled in the Tempo Track," and "Data Controlled in the Beat Tracks."*

Procedure

1. Load the song containing the data you want to edit or check. (p. 93)
2. Press [F4 (MICRO)] to switch to the "MICROSCOPE" screen.
3. Select the track or Pattern to be displayed.
Select Phrase Tracks by pressing TRACK [1]–[16].
To select a Pattern, after pressing [PATTERN] to appear the "PATTERN SELECT" screen, select the Pattern number.

   For the Tempo Track and Beat Tracks, press [TEMPO/BEAT] then make the selection. Each time you press [TEMPO/BEAT], "Trk Tempo" and "Trk Beat" will alternate.
4. Pressing [CURSOR (up)] or [CURSOR (down)] moves the " ▶ " up and down, allowing you to check the different categories of performance data one at a time.

With the cursor at the clock position, press [INC] or [DEC], or rotate the [VALUE] dial to check the different categories of performance data one by one.
If you want to move the ">" one measure at a time, move the cursor to the measure position, and press [INC] or [[DEC], or rotate the [VALUE] dial. Pressing [BWD] and [FWD] also moves the indicator in one-measure increments.
To move the ">" one beat at a time, move the cursor to the beat position, and press [INC] or [[DEC], or rotate the [VALUE] dial.



5. To return to the "SONG PLAY" screen, press [EXIT].

With Patterns, when the "MICROSCOPE" screen is appear, pressing [EXIT] returns the "PATTERN PLAY" screen to the display. Pressing [EXIT] once more returns the "SONG PLAY" screen.

Displaying the Note Message Keyboard Positions

You can display a keyboard at the bottom of the MICROSCOPE screen, and indicate the Microscope note data using the position on the keyboard.

Procedure

1. Press [SEQUENCER] to call up the "SONG PLAY" screen.

2. If using a song that has been saved to the disk, then use the procedure described on p. 93 to load the data. When using a song during Quick Play, press [F6 (LOAD)] to load the song.

3. Press [F4 (MICRO)]

The "MICROSCOPE" screen appears in the display.

4. Press [F6 (VIEW SW)].

The "VIEW SW" screen appears.

5. Press [F1 (NOTE MAP)].

A small keyboard layout appears above [F1 (NOTE MAP)], and the setting switches to ON.

6. Press the [EXIT] to return the "MICROSCOPE" screen, and a keyboard appears in the lower part of the screen.

* *You can also switch the display of the keyboard in the MICROSCOPE screen on and off by holding down [SHIFT] and pressing [F6 (VIEW SW)].*

Listening to Note Message Sounds

You can listen to the Note Message sounds displayed in the MICROSCOPE screen one at a time.

Procedure

1. Moving the cursor to a note outputs that note's MIDI Message, and the sound generator then plays the sound.

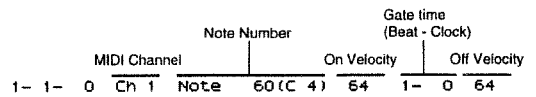
In addition, to play the note at which the cursor is currently positioned, press [ENTER]. The MIDI Message is output in this instance as well.

Data Controlled in Phrase Tracks and Patterns

The following nine types of performance data are recorded to Phrase Tracks and Patterns.

•Note

These are MIDI Messages recorded when keys are pressed and released. Note names are shown in parentheses.



MIDI Channel: The MIDI channel for this message.

Note Number: Pitch of the note.

On Velocity: Pressure with which the key is pressed

Gate Time: Time from when the key is pressed to when it is released

Off Velocity: Force with which the key is released

•Poly Aft (Polyphonic Aftertouch)

These are MIDI Messages for applying aftertouch to the keys. Note names are shown in parentheses.

MIDI Channel: The MIDI channel for this message.

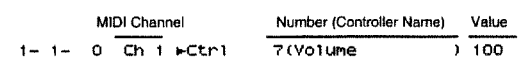
Note Number: Pitch of the notes with Aftertouch applied.

Value: Strength of the effect.

•Ctrl Change (Control Change)

These are MIDI Messages for applying modulation, expression, and other effects according to each controller number.

* *For more information about the functions related to each controller number, please refer to "MIDI Implementation" (p. 151).*



MIDI Channel: The MIDI channel for this message.

Controller Name (Number): Control Change type.

Value: Strength of the effect.

•Prog Change (Program Change)

These are MIDI Messages for changing Instruments/Patches.

MIDI Channel: The MIDI channel for this message.

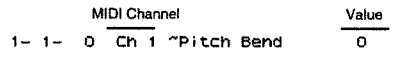
Program Number: Tone name and number. Tone names are those used in GM format.

•Channel Aft (Channel Aftertouch)
These are MIDI Messages for applying aftertouch to each MIDI channel.

MIDI Channel: The MIDI channel for this message.

Value: Strength of the effect.

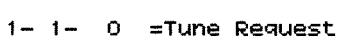
•Pitch Bend
These are MIDI Messages for changing the pitch.



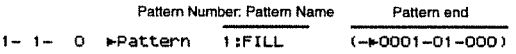
MIDI Channel: The MIDI channel for this message.

Value: Strength of the effect.

•Tune (Tune Request)
These are MIDI Messages for tuning analog synthesizers.



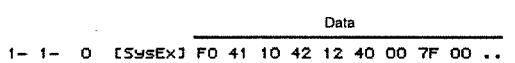
•Pattern (Pattern Call Message)
This is a message for playback of a Pattern during the performance of a song. The point at which playback of the Pattern ends is shown in parentheses.



Pattern Number: Pattern Name: Number and name of the Pattern to be played back.

Pattern Stop Playback Location: A Pattern Call message is placed at this position when a Pattern is to be played immediately afterwards.

•SysEx (System Exclusive Message)
Messages in a system connected by MIDI are shared by the entire system. When System Exclusive Messages are not displayed line by line, then ">" appears at the very right of the window.



Data Controlled in the Tempo Track
Song tempo data is recorded to the Tempo Track.

•Tempo Change
This determines the tempo. Songs are played back at the tempo corresponding to the value set here.
Value: Tempo value

Data Controlled in the Beat Tracks

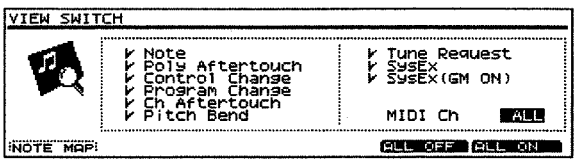
•Beat Change
This determines the rhythm.

Displaying Only Specific Types of Data

Since so much performance data is recorded to the Phrase Tracks and Patterns, the desired data becomes more difficult to find. Therefore, you can specify what kinds of data are to be shown in the display. When you want to check or change only specific MIDI Messages, then by having only MIDI Messages displayed, you can make it easier to find the MIDI Message you are looking for.

Procedure

1. Confirm that the "MICROSCOPE" screen appears in the display.
2. Press [F6 (VIEW SW)] to switch to the "VIEW SWITCH" screen.



3. Move the cursor to "MIDI Ch," and select the MIDI channel to be displayed.

When you want to display the performance data on all MIDI channels, set this to ALL. If you want to display the performance data on only a specific MIDI channel, specify a number from 1 to 16.

4. After pressing [CURSOR] to move the cursor to the name of each performance data, press [INC/+], placing a check mark (✔) the name, to have the data appear in the display. If the data is not to be displayed, press [DEC/-], deleting the check mark.

When displaying all performance data, press [F6 (ALL ON)]; when not displaying all performance data, press [F5 (ALL OFF)].

5. When you have finished making these settings, press [EXIT] to return to the MICROSCOPE screen.

Changing Performance Data

This changes the parameters of the performance data recorded to the Phrase Tracks and Patterns. However, changing the MIDI Messages themselves, for example altering Program Change Messages by using Pitch Bend is not possible.

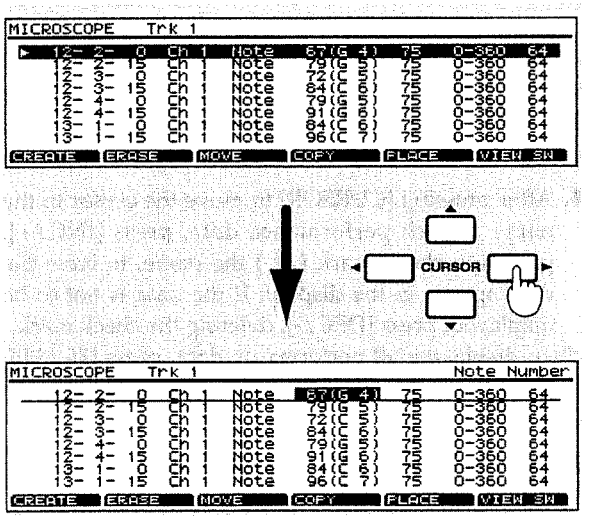
* *For more detailed information about performance data, refer to "Data Controlled in Phrase Tracks and Patterns" (p. 60).*
* *As Tune Request contains no parameters, it cannot be adjusted.*

Procedure

1. Load the song containing the data you want to edit or check. (p. 93)
2. Press [F4 (MICRO)] to switch to the "MICRO-SCOPE" screen.
3. Select the Phrase Track or Pattern.

Select Phrase Tracks by pressing TRACK [1]–[16].
To select a Pattern, after pressing [PATTERN] to appear the Pattern selection screen, select the Pattern number.

4. Press [CURSOR (up)] or [CURSOR (down)] to move the " ▶ " to the performance data to be changed.
5. Press [CURSOR (Left)] or [CURSOR (Right)] to move the cursor to the parameter to be changed, and set the value.


MICROSCOPE Trk 1
CREATE ERASE MOVE COPY PLACE VIEW SW
CURSOR
MICROSCOPE Trk 1 Note Number
CREATE ERASE MOVE COPY PLACE VIEW SW

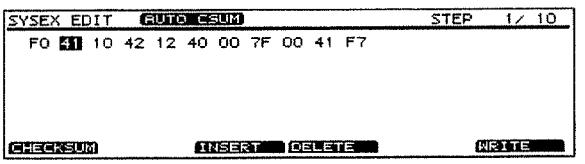
* *When changing the Note or the Polyphonic Aftertouch Note Number (note name), you can also specify the note by pressing the key. Additionally, while holding down [SHIFT], you can press the numeric keys to specify the note name (C–B) and incidentals (♯, ♭).*
* *When changing "On Velocity" or "Off Velocity" for notes, you can set these by pressing the keys as well.*
* *The procedure for changing System Exclusive Messages differs somewhat. Use the following procedure to change System Exclusive Messages.*
* *The Undo/Redo function (p. 21) will undo/redo all operations that you performed—from when you began editing in the MICROSCOPE page, until you exited the page.*

Changing System Exclusive Messages

Procedure

1. Press [CURSOR (up)] or [CURSOR (down)] to move the " ▶ " to the System Exclusive Message to be changed.
2. Press [CURSOR (Right)] to move the cursor to the data to be changed.

This switches the display to the "SYSEX EDIT" screen.



To move the cursor to the beginning of the data, hold down [SHIFT] and press [CURSOR (Left)].
To move the cursor to the end of data, hold down [SHIFT] and press [CURSOR (Right)].

* *F0 cannot be changed, so the cursor does not move to this position. Additionally, F7 cannot be deleted.*

3. Change the value.

When inputting values A–F with the numeric keys, hold down [SHIFT] and press [0]–[5].
When you want to add values to F0:–:F7, move the cursor to the desired position, then press [F3 (Insert)]. 00 is inserted; change this to the value you want.
When you want to delete a value, move the cursor to the desired position, then press [F4 (Delete)].

4. When you have finished changing the settings, press [F6 (WRITE)] to set all the System Exclusive Message values.

If you want to cancel the changes to the System Exclusive Messages and return to the "MICRO-SCOPE" screen, press [EXIT]. When the cursor is at the beginning of the System Exclusive Message, you can also press [CURSOR (Left)] to cancel the changes.

* *If you press F1 (CHECKSUM) so that "AUTO CSUM" appears in the upper part of the display, the checksum (p. 156) will be calculated automatically.*

* *If you do not want the checksum to be calculated automatically, press [F1 (CHECKSUM)] in the SYSEX EDIT screen so that "AUTO CSUM" no longer appears in the upper part of the screen.*

Changing the Tempo Change Recorded to the Tempo Track

* *Changing the Tempo Change value here only changes the tempo from that location until the next Tempo Change. If you want to speed up or slow down the entire song, change the performance tempo in the "SONG PLAY" screen.*

Procedure

1. Load the song containing the data you want to edit. (p. 93)
2. Press [F4 (MICRO)] to switch to the "MICRO-SCOPE" screen.
3. Press [TEMPO/BEAT] to select the "Trk Tempo." Pressing [TEMPO/BEAT] switches the screen each time the button is pressed, rotating through "Trk Tempo" and "Trk Beat."
4. Press [CURSOR (up)] or [CURSOR (down)] to move " ▶ " to the Tempo Change you want to adjust.
5. Press [CURSOR](right) to move the cursor to the right of " ♩ =," and set the tempo.

Changing Data Recorded to the Beat Tracks

This changes the parameters of the data recorded to the Beat Tracks.

* *For more detailed information about this data, refer to "Data Controlled in the Beat Tracks" (p. 61).*

Procedure

1. Load the song containing the data you want to edit. (p. 93)
2. Press [F4 (MICRO)] to switch to the "MICRO-SCOPE" screen.
3. Press [TEMPO/BEAT] to select the "Trk Beat." Pressing [TEMPO/BEAT] switches the screen each time the button is pressed, rotating through "Trk Tempo" and "Trk Beat."
4. Press [CURSOR (up)] or [CURSOR (down)] to move " ▶ " to the data you want to adjust.
5. Press [CURSOR (Left)] or [CURSOR (Right)] to move the cursor to the data to be changed, then set the value.

Changing the Beat of the Pattern

Pattern Beat controls each of the beats in a Pattern. Pattern Beat as the guide for the Pattern during playback and recording, rather than handling the song beat (the rhythm recorded on the Beat Tracks).
Normally, in Pattern Beat the rhythm is set to 4/4, so if the song beat is set to something other than 4/4, or if you want to record a Pattern with a beat that differs from the song's, then set Pattern Beat.
Pattern Beat settings are made at the beginning of each Pattern. Accordingly, the beat cannot be changed anywhere else within a Pattern. Additionally, Pattern Beat cannot be deleted, moved, or copied.

Procedure

1. Load the song containing the data you want to edit. (p. 93)
2. Press [F4 (MICRO)] to switch to the "MICRO-SCOPE" screen.
3. For Patterns, after pressing [PATTERN] to appear the PATTERN SELECT screen, select the Pattern number.
4. Press [TEMPO/BEAT]
5. Set Pattern Beat.

* *The beat of a pattern can be specified only at the beginning of the pattern.*

Changing the Tempo Within the Song

When you want to change the tempo at some point within the song, insert a Tempo Change in the Tempo Track. The song then plays at that new tempo from the point at which it is inserted.

* *If you want to speed up or slow down the entire song, change the performance tempo in the "SONG PLAY" screen or "TEMPO" window.*

Procedure

1. Load the song containing the data you want to edit. (p. 93)
2. Press [F4 (MICRO)] to switch to the "MICRO-SCOPE" screen.

3. Press [TEMPO/BEAT] to select the "Trk Tempo."
Pressing [TEMPO/BEAT] switches the screen each time the button is pressed, rotating through "Trk Tempo" and "Trk Beat."

4. Move the cursor to an appropriate position (measure - beat - clock), then press the numeric keys to specify the position for the Tempo Change to be inserted.

* *No Tempo Change can be inserted at the end point of the song (the point indicated by "END" in the MICROSCOPE screen).*

5. Press [F1 (Create)].
The Tempo Change is inserted.

6. The inserted Tempo Change is set with the initial value, so rotate the [VALUE] to change this.

Changing the Beat Within the Song

To change the beat during the song, add a new measure featuring a different rhythm. To add new measures, use "Insert Meas" in Track Edit. For more detailed information and instructions, refer to p. 70.

* *If the rhythm on the Beat Tracks and in Pattern Beat differ, the Beat Track settings are followed. For example, if a Pattern with a 3/4 Pattern Beat is assigned to a song with a 4/4 rhythm, playback of the Pattern results in discrepancies in the rhythm. To have this played back correctly, insert a 3/4 Beat Change into Beat Tracks. To return to 4/4 rhythm, insert a 4/4 Beat Change in the measure immediately following the last measure of the Pattern.*

Creating Performance Data (Create)

You can insert newly created performance data at the locations on Phrase Tracks or Pattern of your choice.

Procedure

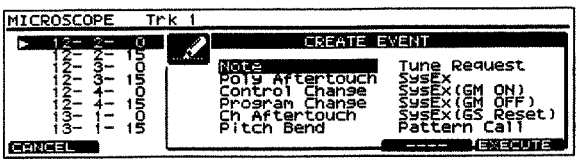
1. Load the song containing the data you want to edit. (p. 93)

2. Press [F4 (MICRO)] to switch to the "MICROSCOPE" screen.

3. Select a Phrase Track or Pattern.
Select Phrase Tracks by pressing TRACK [1]–[16].
To select a Pattern, after pressing [PATTERN] to appear the PATTERN SELECT screen, select the Pattern number.

4. Press [CURSOR (up)] or [CURSOR (down)] to move the " ▶ " to the position where you want the performance data inserted.
If the position where you want to insert performance data does not appear in the display, then move the cursor to an appropriate position (measure - beat - clock), then press the numeric keys to specify the position for the performance data to be inserted.

5. Pressing [F1 (CREATE)] opens the CREATE EVENT window.



6. Move the cursor to select the data to be inserted.

* *If you select Program Change in step 6, you can press [F5(LIST)] to view a list of program changes. Use the cursor to select a program change, and press [F6(CREATE)] to create data. This list shows the 128 GM sounds (GS capital sounds).*

7. Press [F6 (EXECUTE)] and the Event is inserted.
The display switches to the "MICROSCOPE" screen.

8. The parameters for the inserted performance data are set with the initial values; change these as needed.

* *For more detailed information about performance data, refer to "Data Controlled in Phrase Tracks and Patterns" (p. 60).*

• Note:

This adds one note.

• Poly Aftertouch (Polyphonic Aftertouch):

This adds aftertouch to the specified note.

• Control Change:

This is inserted when adding modulation, expression, or other effects.

• Program Change:

This is inserted when you want to switch tones during the course of the song.

• Channel Aftertouch:

This adds aftertouch to the specified MIDI channel.

• Pitch Bend:

This is inserted when adding Pitch Bend effect.

• Tune Request:

This is inserts a message for tuning analog synthesizers.

• Sys.Ex (System Exclusive Message):

This inserts the initial value for the Exclusive Message.

• Sys.Ex(GM ON) (GM ON Message)

This is inserted when you want to set the sound generator to initial GM status.

• Sys.Ex(GM OFF) (GM OFF Message)

This is inserted when you want to remove initial GM status from the sound generator.

• Sys.Ex(GS Reset) (GS RESET)

• Pattern Call (Pattern Call Message):

This is inserted at the position you want a Pattern to be played back.

* *This message cannot be created within a pattern.*

* *If the inserted Pattern is longer than the final measure of the song, then the Pattern is cut off before it finishes.*

* *Only one Pattern inserted by a Pattern Call Message can be played back at one time. If a Pattern Call Message is recorded at a position before the end of the first Pattern, the Pattern that had been played up to the present is stopped, and the next Pattern is played back. Additionally, if multiple Pattern Call Messages are recorded at the same point, only the one that appears last in the MICROSCOPE screen is played back.*

Deleting Performance Data (Erase)

You can erase selected performance data from a position where it exists.

* *Tempo Changes at the beginning of Tempo Tracks, Beat Changes at the beginning of Beat Tracks and Pattern Beats cannot be erased.*

Procedure

1. Load the song containing the data you want to edit. (p. 93)

2. Press [F4 (MICRO)] to switch to the "MICROSCOPE" screen.

3. Select a track or Pattern.

Select Phrase Tracks by pressing TRACK [1]–[16].

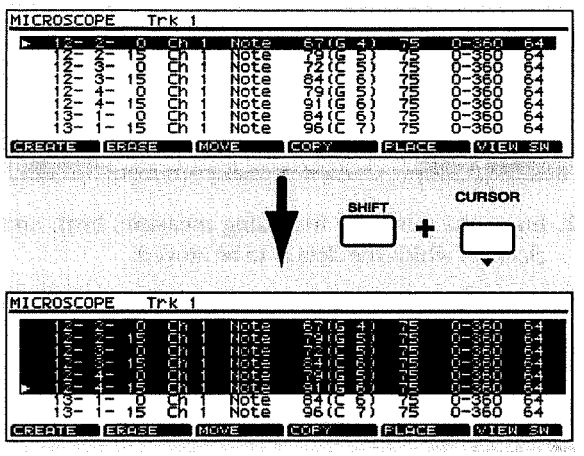
To select a Pattern, after pressing [PATTERN] to appear the Pattern selection screen, select the Pattern number.

Press [TEMPO/BEAT] to select the "Trk Tempo."

Pressing [TEMPO/BEAT] switches the screen each time the button is pressed, rotating through "Trk Tempo" and "Trk Beat."

4. Press [CURSOR (up)] or [CURSOR (down)] to move the cursor to the performance data you want to erase.

* *To erase a multiple consecutive data in the MICROSCOPE screen, hold down [SHIFT] and press the [CURSOR] button to select the data.*



5. Press [F2 (ERASE)], and the data is erased.

Moving Performance Data (Move)

You can move selected performance data from its current position.

* *Tempo Changes at the beginning of Tempo Tracks, Beat Changes at the beginning of Beat Tracks, and Pattern Beats cannot be moved.*

Procedure

1. Load the song containing the data you want to edit. (p. 93)

2. Press [F4 (MICRO)] to switch to the "MICROSCOPE" screen.

3. Select a track or Pattern.

Select Phrase Tracks by pressing TRACK [1]–[16].

To select a Pattern, after pressing [PATTERN] to appear the Pattern selection screen, select the Pattern number.

Press [TEMPO/BEAT] to select the "Trk Tempo."

Pressing [TEMPO/BEAT] switches the screen each time the button is pressed, rotating through "Trk Tempo" and "Trk Beat."

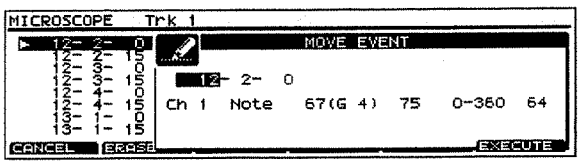
4. Press [CURSOR (up)] or [CURSOR (down)] to move the cursor to the performance data you want to move.

* *To move a multiple consecutive data in the MICROSCOPE screen, hold down [SHIFT] and press the [CURSOR] button to select the data.*

5. Pressing [F3 (MOVE)] opens the "MOVE EVENT" window.

Only the performance data to be moved then is displayed.

* *If you have selected multiple data items, their range will be displayed.*



6. Input the position, including measure, beat, and clock, to which the data is to be moved.

7. Press [F6 (EXECUTE)] and the performance data is moved.

The display returns to the "MICROSCOPE" screen.

Copying Performance Data (Copy)

You can Copy performance data at a selected position.

Procedure

1. Load the song containing the data you want to edit. (p. 93)

2. Press [F4 (MICRO)] to switch to the "MICROSCOPE" screen.

3. Select a track or Pattern.

Select Phrase Tracks by pressing TRACK [1]–[16].

To select a Pattern, after pressing [PATTERN] to appear the Pattern selection screen, select the Pattern number.

Press [TEMPO/BEAT] to select the "Trk Tempo."

Pressing [TEMPO/BEAT] switches the screen each time the button is pressed, rotating through "Trk Tempo" and "Trk Beat."

4. Press [CURSOR (up)] or [CURSOR (down)] to move the cursor to the performance data you want to copy.

To copy a multiple consecutive data in the MICROSCOPE window, hold down [SHIFT] and press the [CURSOR] button to select the data.

5. Press [F4 (Copy)], to select the performance data to be copied.

6. Press [CURSOR (up)] or [CURSOR (down)] to move the cursor to the position where you want the performance data inserted.

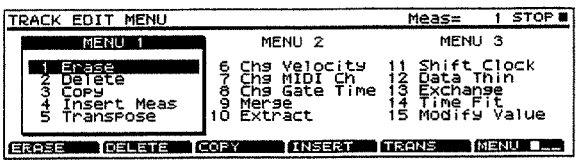
If the position where you want to insert performance data does not appear in the display, then move the cursor to an appropriate position (measure - beat - clock), then press the numeric keys to specify the position for the performance data to be inserted.

If you want to copy the data to a different Phrase Track or Pattern, then after switching to that Pattern or Phrase Track, specify the position to which the data is to be copied.

7. Press [F5 (Place)] and the performance data is pasted at the new location.

Editing Whole Measures and Tracks (Track Edit)

Track Edit is for correcting performance data in a specified range of the song.



Procedure

1. Press [SEQUENCER] to call up the "SONG PLAY" screen.

2. If using a song that has been saved to the disk, then use the procedure described on p. 93 to load the data. When using a song during Quick Play, press [F6 (LOAD)] to load the song.

3. Press [F3 (TRK EDIT)].

The "TRK EDIT MENU" screen appears.

You can carry out editing with respect to the 15 items in the menu appearing in this screen. Use [CURSOR] to select the item and press [ENTER] to select each of the screens for editing settings.

For explanations of each one, please refer to the following descriptions of the various editing process.

Specifying the Editing Range

The editing range in this method is set by specifying the beginning measure along with the number of measures to be edited from that point. For example, when set to "Measure 5, for 4," the four measures starting at Measure 5, or the range from the beginning of Measure 5 to the end of Measure 8 is selected for Track Edit.

Procedure

1. Move the cursor to "Measure" and specify the measure at which Track Edit is to begin.

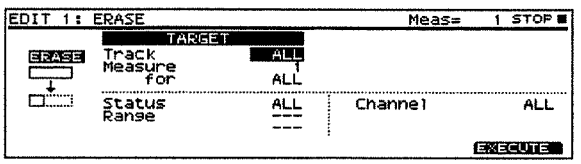
2. Move the cursor to "for" and select the length of the range to come under Track Edit.

If you want to use Track Edit through to the end of the song, select "ALL."

Erasing Phrases (Erase)

This erases all performance data within the specified range. The performance data is replaced by rests, leaving the measures in place.

* *Tempo Changes at the beginning of Tempo Tracks and Beat Changes at the beginning of Beat Tracks cannot be deleted.*



Procedure

1. Press [SEQUENCER], then press [F3(TRK EDIT)].
2. Press [F6 (MENU)], then select "MENU 1" and press [F1 (ERASE)].

* *You can also switch in the "TRACK EDIT MENU" screen by moving the cursor to "1 Erace" and pressing [ENTER], or inputting [1] with the numeric keys and the pressing [ENTER].*

3. Move the cursor to the target track, then select the track or Pattern to be erased. To select a pattern, press the [PATTERN].
4. When setting the editing range with measures, move the cursor to "Measure" and set the measure number for the beginning measure, then move the cursor to "for" and set the number of measures to be erased.
5. Move the cursor to "Status," then select the performance data to be deleted.

To select Note, Poly Af, CC, or PC, move the cursor to "Range" and set the range.

6. Move the cursor to "Channel," then set the MIDI channel for the performance data to be erased.
7. Press [F6 (EXECUTE)] to execute the operation.

Track

This selects the track or Pattern to be erased.
ALL: Phrase Tracks 1–16, Beat Tracks, and Tempo Track
TRK 1–TRK 16: Specified Phrase Track
Tempo: Tempo Tracks
PTN 1–100: Specified Pattern

Measure, for (Edit Range)

These designate the range to be edited. "Measure" specifies the measure from which editing begins, and "for" specifies the number of measures from the beginning measure that editing is to continue.

Status

This selects the performance data to be erased.
ALL: All data
Note: Note data
Poly Af: Polyphonic Aftertouch data
CC: Controller Number data
PC: Program Change data
Ch Af: Channel Aftertouch data
P.BEND: Pitch Bend data
SysEx: System Exclusive Message data
TuneReq: Tune Request data
PTNCall: Pattern Call Message data

* *These parameters cannot be set when Tempo is selected as the target track.*

Range

This sets the range when either Note, Poly Af, CC, or Pc is selected as the Status parameter.
To erase all Note or Polyphonic Aftertouch data, set "0 (C-1)-127(G9)." To erase C4, set "60(C4)–60(C4)," and to erase the range from C3 to C4, set "48(C3)–60(C4)."
If you wish to delete all controller numbers, select "0 - 127." If you wish to delete all program numbers, select "1 - 128." To erase Number 4, set this to "4–4," and to erase Numbers 3 to 14, set this to "3–14."

Channel (MIDI Channel)

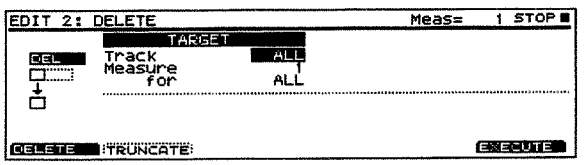
This sets the MIDI channel of the performance data to be erased.
When you want to erase all of the performance data, set this to ALL, but if you want to erase the performance data on only a specific MIDI channel, specify that MIDI channel.

* *This cannot be set when Tempo is selected as the target track and the SysEx, TuneReq, and PTNCall Status parameters are selected.*

Deleting Measures (Delete)

This deletes all performance data within the specified range, with the measures that come afterwards moved forward and joined to the rest to the measures. The performance is thus shortened by the number of measures deleted.

* *It is not possible to delete the data at the beginning of the Trk Tempo (tempo track) or Trk Beat (beat track).*



Procedure

1. Press [SEQUENCER], then press [F3(TRK EDIT)].
2. Press [F6 (MENU)] to select "MENU 1," then press [F2 (DELETE)].

* *You can also switch in the "TRACK EDIT MENU" screen by moving the cursor to "2 DELETE" and pressing [ENTER], or inputting [2] with the numeric keys and the pressing [ENTER].*

3. Press [F1 (DELETE)].
4. Move the cursor to the target track, then select the track or Pattern to be deleted. To select a pattern, press the [PATTERN].
5. When setting the editing range with measures, move the cursor to "Measure" and set the measure number for the beginning measure, then move the cursor to "for" and set the number of measures to be deleted.
6. Press [F6 (EXECUTE)] to execute the operation.

Target Track

This selects the track or Pattern to be deleted.
ALL: Phrase Tracks 1–16, Beat Tracks, and Tempo Track
TRK1–TRK 16: Specified Phrase Track
Tempo: Tempo Tracks
PTN 1–100: Specified Pattern

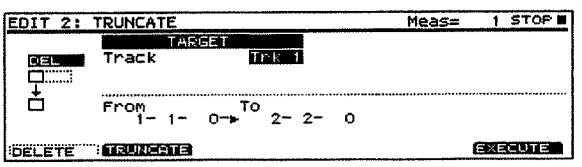
Measure, for (Edit Range)

These designate the range to be edited. "Measure" specifies the measure from which editing begins, and "for" specifies the number of measures from the beginning measure that editing is to continue.

Deleting Blank Measures from the Beginning of the Song (TRUNCATE)

When copying and merging, you may end up with a number of blank measures at the beginning of the Phrase Track or Pattern. With Truncate, you can remove the empty space between the beginning of the song and the first Note On Message on the specified Phrase Track or Pattern.

* *If any Program Change, Control Change, or other performance data besides Note On is recorded in between the beginning of the specified Phrase Track or Pattern and the first Note On Message, only the last message of each type is placed before Note On.*



Procedure

1. Press [SEQUENCER], then press [F3 (TRK EDIT)].
2. Press [F6 (MENU)] to select "MENU 1," then press [F2 (DELETE)].

* You can also switch in the "TRACK EDIT MENU" screen by moving the cursor to "2 Delete" and pressing [ENTER], or inputting [2] with the numeric keys and the pressing [ENTER].

3. Press [F2 (TRUNCATE)].
4. Select the track or Pattern to be truncated. To select a pattern, press the [PATTERN].
5. The range to be truncated is indicated by the "From" and "to" positions.

* *The process of searching the selected Phrase Track or Pattern so that the "From" and "to" positions can be indicated may take a moment.*

6. Press [F6 (EXECUTE)] to execute the operation.

Target Track

This selects the Phrase Track or Pattern from which the blank space is to be deleted.
TRK 1–TRK 16: Specified Phrase Track
PTN 1–100: Specified Pattern

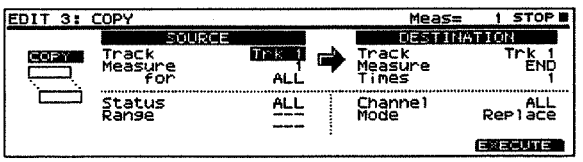
From, to (Editing Range)

This indicates the starting position (From) and position of the first Note On (to) for the specified Phrase Track or Pattern on the target track.

* *This item's value are set automatically.*

Copying Phrases (Copy)

This copies the performance data in the specified range. This is convenient when repeatedly using the same Phrase a number of times. You can also copy Phrase Tracks to Patterns, and Patterns to Phrase Tracks.



Procedure

1. Press [SEQUENCER], then press [F3 (TRK EDIT)].
2. Press [F6 (MENU)] to select "MENU 1," then press [F3 (COPY)].

You can also switch in the "TRACK EDIT MENU" screen by moving the cursor to "3 Copy" and pressing [ENTER], or inputting [3] with the numeric keys and the pressing [ENTER].

3. Move the cursor to the source track, then select the Phrase Track or Pattern to be copied.
4. When setting the range of the copy source with measures, move the cursor to "Measure" and set the measure number for the beginning measure, then move the cursor to "for" and set the number of measures to be copied.
5. Move the cursor to the destination track and select the destination track or Pattern.
6. Move the cursor to "Measure" (destination measure), then set the copy destination.

Set the range of the copy destination with the same procedure used for the copy source.

7. Move the cursor to "Times," then set the number of copies to be placed in the copy destination.
8. Move the cursor to "Status," then select the performance data to be copied.

To select Note, Poly Af, CC, or PC, move the cursor to "Range" and set the range. The range for Note and Poly Af can also be set by pressing the keys on the keyboard.

9. Move the cursor to "Channel," then set the MIDI channel for the performance data to be copied.
10. Move the cursor to "Mode," then select the copy mode.
11. Press [F6 (EXECUTE)] to execute the operation.

Source Track

This selects the track or Pattern to be copied.
ALL: Phrase Tracks 1–16, Beat Tracks, and Tempo Track
TRK 1–TRK 16: Specified Phrase Track
Tempo: Tempo Tracks
PTN 1–100: Specified Pattern

Measure, for (Edit Range)

These designate the range to be edited. "Measure" specifies the measure from which editing begins, and "for" specifies the number of measures from the beginning measure that editing is to continue.

Destination Track

This selects the track or Pattern to which the copy is pasted.
ALL: Phrase Tracks 1–16, Beat Tracks, and Tempo Track
TRK 1–TRK 16: Specified Phrase Track
Tempo: Tempo Tracks
PTN 1–100: Specified Pattern

* *When ALL is selected for the source track, select ALL or one of the Patterns PTN 1–PTN 100 as the destination track. If you select one of the Patterns PTN 1–PTN 100 as the destination track, the sixteen Phrase Tracks are combined before being copied.*
* *If Tempo is selected as the source track, then only Tempo can be selected for the destination track.*

Measure (Destination Measure)

This specifies the destination for the copy.
If you want the copy destination to be after the last measure of the song, then set this to END.

Mode (Copy Mode)

This determines whether or not any performance data at the copy destination is to remain after the copy is placed there.
Mix: The performance data already at the copy destination is left while the copy is added to it.
Replace: The performance data previously recorded at the copy destination is erased, and the copied data is set in its place. However, only the performance data on the MIDI channel specified in the Channel parameter is replaced, and the performance data on the other MIDI channels is left in place.

Times (Copy Time)

This determines the number of times copied data is placed at the copy destination when multiple copies are used.

Status

This selects the performance data to be copied.
ALL: All data is copied.
Note: Note data is copied.
Poly Af: Polyphonic Aftertouch data is copied.
CC: Control Number data is copied.
PC: Program Number data is copied.
Ch Af: Channel Aftertouch data is copied.
P.BEND: Pitch Bend data is copied.
SysEx: System Exclusive Message data is copied.
TuneReq: Tune Request data is copied.
PTNCall: Pattern Call Message data is copied.

* *These parameters cannot be set when Tempo is selected as the target track.*

Range

This sets the range when either Note, Poly Af, CC, or PC is selected as the Status parameter.
To copy all Note or Polyphonic Aftertouch data, set "0(C-1)–127(G9)." To copy C4, set "60(C4)–60(C4)," and to copy the range from C3 to C4, set "48(C3)–60(C4)."
If you wish to delete all controller numbers, select "0 - 127." If you wish to delete all program numbers, select "1 - 128." To copy Number 4, set this to "4–4," and to copy Numbers 3 to 14, set this to "3–14."

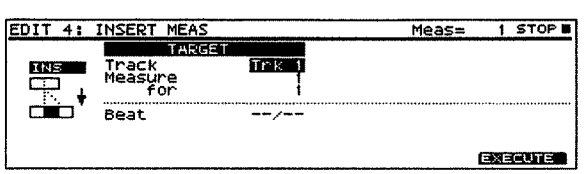
Channel (MIDI Channel)

This sets the MIDI channel of the performance data to be copied.
When you want to copy all of the performance data, set this to ALL, but if you want to copy the performance data on only a specific MIDI channel, specify that MIDI channel.

* *This cannot be set when Tempo is selected as the target track and the SysEx, TuneReq, and PTN Call Status parameters are selected.*

Inserting Blank Measures (Insert Measure)

This inserts new, blank measures at the specified position. Since you can set the beat of inserted measures, this can be convenient when you want to add a Phrase with a different rhythm in the middle of a song.



Procedure

1. Press [SEQUENCER], then press [F3 (TRK EDIT)].
2. Press [F6 (MENU)] to select "MENU 1," then press [F4 (INSERT)].

* *You can also switch the windows in the "TRACK EDIT MENU" screen by moving the cursor to "4 Insert Meas" and pressing [ENTER], or inputting [4] with the numeric keys and the pressing [ENTER].*

3. Move the cursor to the target track, then select the track or Pattern to be erased.
4. When setting the editing range with measures, move the cursor to "Measure" and set the measure number for the beginning measure.
5. Move the cursor to "for," then set the length of the blank measure to be inserted.
6. When the target track is set to ALL, move the cursor to "Beat," then set the rhythm of the blank measure being inserted.
7. Press [F6 (EXECUTE)] to execute the operation.

Target Track

This selects the track or Pattern into which the blank measures are to be inserted.
ALL: Phrase Tracks 1–16, Beat Tracks, and Tempo Track
TRK 1–TRK 16: Specified Phrase Track
Tempo: Tempo Tracks
PTN 1–100: Specified Pattern

Measure, for (Edit Range)

These designate the range to be edited. "Measure" specifies the measure from which editing begins, and "for" specifies the number of measures from the beginning measure that editing is to continue.

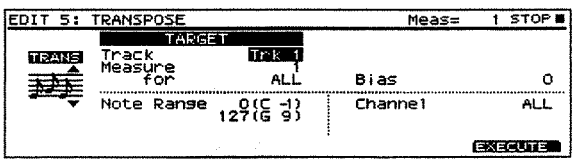
Beat

Normally, the inserted measures adopt the rhythm of the immediately preceding measure. Choose a different setting if you want to change the beat of the inserted measures.

* *This parameter can be set when ALL is selected as the target track.*

Transposing Phrases (Transpose)

This transposes the note in the specified range over a range of 127 semitones. Use this function to modulate within the song, or when you want to transpose the entire song.



Procedure

1. Press [SEQUENCER], then press [F3 (TRK EDIT)].
2. Press [F6 (MENU)] to select "MENU 1," then press [F5 (TRANSPOSE)].

* *You can also switch in the "TRACK EDIT MENU" screen by moving the cursor to "5 TRANSPOSE" and pressing [ENTER], or inputting [5] with the numeric keys and the pressing [ENTER].*

3. Move the cursor to the target track, then select the track or Pattern to be transposed.
4. When setting the editing range with measures, move the cursor to "Measure" and set the measure number for the beginning measure, then move the cursor to "for" and set the number of measures to be affected by "Transpose."
5. Move the cursor to "Range," then set the amount by which velocity is to be increased or reduced.
6. Move the cursor to "Bias," and specify the amount of transposition.
7. Move the cursor to "Channel," then set the MIDI channel for the notes to which Change Velocity is applied.
8. Press [F6 (EXECUTE)] to execute the operation.

Track (Target Track)

This selects the Phrase Track or Pattern to be transposed.
ALL: Phrase Tracks 1–16
TRK 1–TRK 16: Specified Phrase Track
PTN 1–100: Specified Pattern

Measure, for (Editing Range)

This specifies the range to be transposed.

Note Range

This specifies the range to be transposed. For example, to transpose the range from C3 to C4, select "C3–C4."

Bias

This sets the degree of transposition in semitone (half-step) increments. Setting this to +1 raises the song by one semitone; setting -1 lowers the song by one semitone; when set to 0, the sound is not transposed.
When specifying one sound for the Note Range parameter, the destination sound name is shown in parentheses.

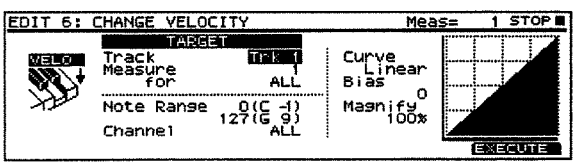
Channel (MIDI Channel)

This selects the MIDI channel for the transposed notes. When you want to transpose all of the notes, set this to ALL, but if you want to transpose only the notes on a specific MIDI channel, select that MIDI channel.

<If You Want to Lower the Bass Sound One Octave>
If the sound of the bass performance turns out to be one octave higher than entered in the score, use Transpose to lower the sound one octave.
To lower the bass sound one octave, set the Note Range parameter to "Lowest-Highest" for the bass part, and set the Bias parameter to "-12."
<To Change Percussion Sounds>
If you want to change the sound of a percussion instrument within the drum performance, you can use Transpose.
For example, let's try changing the sound of a conga to a tom sound. If the conga sound is assigned to the D4 key and the tom to C3, set the Note Range parameter to "D4-D4." For the Bias parameter, move the cursor to "Bias," and set this to "-14 ."

Changing Phrase Velocity (Change Velocity)

This changes the apparent force (velocity) with which the keys in a specified range are played.



Procedure

1. Press [SEQUENCER], then press [F3 (TRK EDIT)].
2. Press [F6 (MENU)] to select "MENU 2," then press [F1 (CHG VELO)].

* *You can also switch in the "TRACK EDIT MENU" window by moving the cursor to "6 Chg Velocity" and pressing [ENTER], or inputting [6] with the numeric keys and the pressing [ENTER].*

3. Move the cursor to the target track, then select the track or Pattern on which the velocity is to be changed.

4. When setting the editing range with measures, move the cursor to "Measure" and set the measure number for the beginning measure, then move the cursor to "for" and set the number of measures to be affected by Change Velocity.

5. Move the cursor to "Curve," and select one of the graphically-displayed curves to specify how the original velocity values will be edited.

6. Move the cursor to "Bias," then set the amount by which velocity is to be increased or reduced.

7. Move the cursor to "Magnify," then set the differences in velocity.

8. Move the cursor to "Channel," then set the MIDI channel for the notes to which Change Velocity is applied.

9. Move the cursor to "Note Range," then specify the range within which the velocity is changed.
This range can also be set by pressing the keys on the keyboard.

10. Press [F6 (EXECUTE)] to execute the operation.

Track (Target Track)

This selects the Phrase Track or Pattern of which you want to change the velocity.
ALL: Phrase Tracks 1–16
TRK 1–TRK 16: Specified Phrase Track
PTN 1–100: Specified Pattern

Measure, for (Editing Range)

This specifies the range over which the velocity is to be changed.

Note Range

This specifies the range within which the velocity is changed. For example, to change the velocity of the notes from C3 to C4, select "C3–C4."

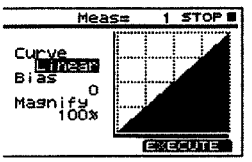
Channel (MIDI Channel)

This selects the MIDI channel for the notes whose velocity you are changing.
When you want to change the velocity for all of the notes, set this to ALL, but if you want to change the velocity only for the notes on a specific MIDI channel, select that MIDI channel.

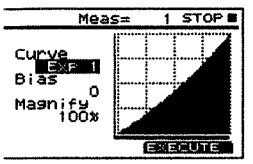
Curve

Instead of uniformly increasing or decreasing the velocity values of the source data, you can edit the data in a variety of ways.

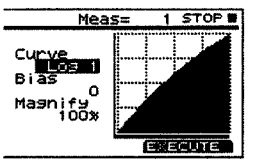
Linear: This uniformly increases or decreases the velocity values of the source data.



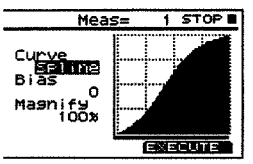
EXP1, EXP2: Velocity values are dramatically decreased, particularly in the middle of the range.



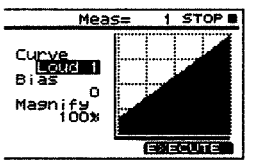
LOG 1, LOG2: Velocity values are dramatically increased, particularly in the middle of the range.



Spline: This setting makes high velocities even greater, and makes low velocities even lower.



Loud 1, Loud 2: Increase velocity values, especially the weaker ones.



Bias

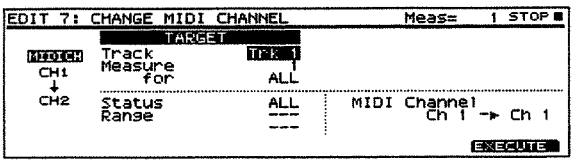
This sets the velocity change for the entire keyboard. Setting the value to +10 increases the velocity ten.

Magnify

This setting reduces and expands differences in the velocity. When you want to suppress inflection in the song, set this at 99% or lower. When you want to emphasize the inflections, set this at 101% or higher. A setting of 100% imparts no change.

Changing a Phrase's MIDI Channel (Change Channel)

This changes the MIDI channel of performance data in a specified range, sending it to a different MIDI channel.



Procedure

1. Press [SEQUENCER], then press [F3 (TRK EDIT)].
2. Press [F6 (MENU)] to select "MENU 2," then press [F2 (CHG CH)].

* *You can also switch in the "TRACK EDIT MENU" screen by moving the cursor to "7 Chg Channel" and pressing [ENTER], or inputting [7] with the numeric keys and the pressing [ENTER].*

3. Move the cursor to the target track, then select the Phrase Track or Pattern for which the MIDI channel is to be changed.
4. When setting the editing range with measures, move the cursor to "Measure" and set the measure number at which Change Channel is to begin, then move the cursor to "for" and set the number of measures Change Channel is to be in effect.
5. Move the cursor to "Status," then select the performance data for which the MIDI channel is to be changed.

To select Note, Poly Af, CC, or PC, move the cursor to "Range" and set the range. The range for Note and Poly Af can also be set by pressing the keys on the keyboard.

6. Move the cursor to "Channel," then on the left, set the MIDI channel to be changed, and on the right, the new destination MIDI channel.
7. Press [F6 (EXECUTE)] to execute the operation.

Track (Target Track)

This selects the Phrase Track or Pattern whose MIDI channel is to be changed.
ALL: Phrase Tracks 1–16
TRK 1–TRK 16: Specified Phrase Track
PTN 1–100: Specified Pattern

Measure, for (Editing Range)

This specifies the range over which the MIDI channel is to be changed.

Status

This selects the performance data for which the MIDI channel is to be changed.
ALL: The MIDI channel for all of the data listed below is copied.
Note: The MIDI channel for Note data is changed.
Poly Af: The MIDI channel for Polyphonic Aftertouch data is changed.
CC: The MIDI channel for Change data is changed.
PC: The MIDI channel for Program Change data is changed.
Ch Af: The MIDI channel for Channel Aftertouch data is changed.
P.BEND: The MIDI channel for Pitch Bend data is changed.

Range

This sets the range when either Note, Poly AF, CC, or PC is selected as the Status parameter.
To change the MIDI channels for all Note or Polyphonic Aftertouch data, set "C1–G9." To copy C4, set "C4–C4," and to change the MIDI channels for the range from C3 to C4, set "C3–C4."
If you wish to delete all controller numbers, select "0 - 127." If you wish to delete all program numbers, select "1 - 128." To change the MIDI channel for Number 4, set this to "4–4," and to copy Numbers 3 to 14, set this to "3–14."

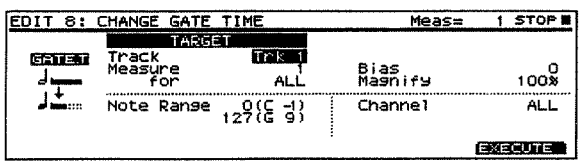
Channel (MIDI Channel)

The setting for the MIDI channel to be changed (change source) is on the left, and the setting for the new MIDI channel (change destination) is on the right. When you want to copy all of the performance data, setting the change source MIDI channels to ALL, all of the performance data is combined on the change destination MIDI channel.

* *ALL cannot be selected for the change destination MIDI channel.*

Changing Note Length in a Phrase (Change Gate Time)

This setting changes the amount of time between Note On and Note Off (Gate Time) for notes in a specified range. Different settings allow you to play with staccato, tenuto, and other effects.



Procedure

1. Press [SEQUENCER], then press [F3 (TRK EDIT)].
2. Press [F6 (MENU)] to select "MENU 2," then press [F3 (CHG GATE)].

* *You can also switch in the "TRACK EDIT MENU" screen by moving the cursor to "8 Chg Gate Time" and pressing [ENTER], or inputting [8] with the numeric keys and the pressing [ENTER].*

3. Move the cursor to the target track, then select the Phrase Track or Pattern for which the Gate Time is to be changed.
4. When setting the editing range with measures, move the cursor to "Measure" and set the measure number where Change Gate Time is to begin, then move the cursor to "for" and set the number of measures of Change Gate Time.
5. Move the cursor to "Bias," then set the amount by which velocity is to be increased or reduced.
6. Move the cursor to "Magnify," then set the differences in Gate Time.
7. Move the cursor to "Channel," then set the MIDI channel for the notes to which Change Gate Time is applied.
8. Move the cursor to "Note Range," then specify the range within which the Gate Time is changed.
9. Press [F6 (EXECUTE)] to execute the operation.

Track (Target Track)

This selects the Phrase Track or Pattern whose Gate Time setting you want to change.
ALL: Phrase Tracks 1–16
TRK 1–TRK 16: Specified Phrase Track
PTN 1–100: Specified Pattern

Measure, for (Editing Range)

This specifies the range over which the Gate Time is to be changed.

Bias

This fixes the overall Gate Time, either lengthening or shortening the time for all notes. Setting the value to +10 lengthens the Gate Time ten times.

Magnify

This sets the proportion by which the gate time is lengthened or shortened.
When set to 100%, no change is made. A value of 101% or higher increases the gate time; values of 99% or lower decrease the gate time. For example, to halve the gate time, set this to 50%; to double it, set this to 200%.

Channel (MIDI Channel)

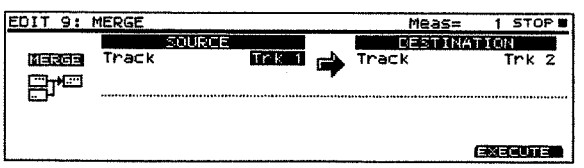
This selects the MIDI channel for the notes whose Gate Time you are changing.
When you want to change the Gate Time for all of the notes, set this to ALL, but if you want to change the Gate Time only for the notes on a specific MIDI channel, select that MIDI channel.

Note Range

This specifies the range within which the Gate Time is changed. For example, to change the Gate Time of the notes from C3 to C4, select "C3–C4."

Combining Two Tracks or Patterns Into One (Merge)

This takes the performance data on two Phrase Tracks or Patterns combines the data onto one of them.



Procedure

1. Press [SEQUENCER], then press [F3 (TRK EDIT)].
2. Press [F6 (MENU)] to select "MENU 2," then press [F4 (MERGE)].

* *You can also switch in the "TRACK EDIT MENU" screen by moving the cursor to "9 Merge" and pressing [ENTER], or inputting [9] with the numeric keys and the pressing [ENTER].*

3. Move the cursor to the source track, then select the Phrase Track or Pattern to be merged.
4. Move the cursor to the destination track, then select the Phrase Track or Pattern to become the merge destination.
5. Press [F6 (EXECUTE)] to execute the operation.

* *You cannot set the same value for both the source and destination tracks.*

Source Track

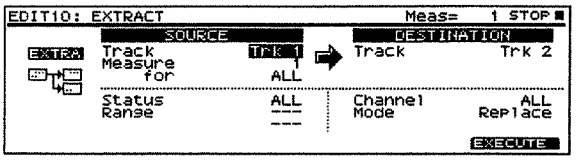
This selects one of the Phrase Tracks or Patterns being merged. After the merge is executed, performance data no longer remains on this Phrase Track or Pattern.
TRK 1–TRK 16: Specified Phrase Track
PTN 1–100: Specified Pattern

Destination Track

This selects one of the Phrase Tracks or Patterns as the destination. After the merge is executed, performance data is combined on this Phrase Track or Pattern.
TRK 1–TRK 16: Specified Phrase Track
PTN 1–100: Specified Pattern

Extracting Specific Performance Data (Extract)

This operation extracts performance data from a specified range, then moves the data to the same position on another Phrase Track or Pattern. Additionally, just as with Standard MIDI File (SMF) Format 0, when performance data from multiple MIDI channels is recorded on one track, you can also assign one MIDI channel to a single Phrase Track.



Procedure

1. Press [SEQUENCER], then press [F3 (TRK EDIT)].
2. Press [F6 (MENU)] to select "MENU 2," then press [F5 (EXTRACT)].

* *You can also switch in the "TRACK EDIT MENU" screen by moving the cursor to "10 Extract" and pressing [ENTER], or inputting [1] and [0] with the numeric keys and the pressing [ENTER].*

3. Move the cursor to the source track, then select the Phrase Track or Pattern to be extracted.
4. When setting the editing range with measures, move the cursor to "Measure" and set the measure number for the point where you want the extraction to begin, then move the cursor to "for" and set the number of measures to be extracted.
5. Move the cursor to the destination track and select the move destination track or Pattern.
6. Move the cursor to "Mode," then select the extract mode.
7. Move the cursor to "Status," then select the performance data to be extracted.

To select Note, Poly Af, CC, or PC, move the cursor to "Range" and set the range of extraction. The range for Note and Poly Af can also be set by pressing the keys on the keyboard.

8. Move the cursor to "Channel," then set the MIDI channel for the performance data to be extracted.
9. Press [F6 (EXECUTE)] to execute the operation.

* *You cannot set the same value for both the source and destination tracks.*

Source Track

This selects the Phrase Track or Pattern from which the performance data is taken. After Extract is executed, the selected performance data no longer remains on this Phrase Track or Pattern.
TRK 1–TRK 16: Specified Phrase Track
PTN 1–100: Specified Pattern

Destination Track

This selects one of the Phrase Tracks or Patterns as the destination. After the merge is executed, performance data is combined on this Phrase Track or Pattern.
ALL: The performance data on MIDI channel 1 is moved to Phrase Track 1, and the performance data on MIDI Channel 16 is moved to Phrase Track 16.
TRK 1–TRK 16: Specified Phrase Track
PTN 1–100: Specified Pattern

Mode (Extract Mode)

This determines whether or not any performance data at the move destination is to remain after the extracted data is placed there.
Replace: The performance data previously recorded at the move destination is erased, and the extracted data is set in its place. However, only the performance data on any MIDI channel specified in the Channel parameter is replaced, and the performance data on the other MIDI channels is left in place.
Mix: The performance data already at the move destination is left while the copy is added to it.

Status

This selects the performance data to be extracted.
ALL: All data is extracted.
Note: Note data is extracted.
Poly Af: Polyphonic Aftertouch data is extracted.
CC: Control Change data is extracted.
Pc: Program Change data is extracted.
Ch Af: Channel Aftertouch data is extracted.
P.BEND: Pitch Bend data is extracted.
SysEx: System Exclusive Message data is extracted.
TuneReq: Tune Request data is extracted.
PTNCall: Pattern Call Message data is extracted.

Range

This sets the range when either Note, Poly AF, CC, or PC is selected as the Status parameter.
To extract all Note or Polyphonic Aftertouch data, set "C1–G9." To extract C4, set "C4–C4," and to extract the range from C3 to C4, set "C3–C4."
If you wish to delete all controller numbers, select "0 - 127." If you wish to delete all program numbers, select "1 - 128." To extract Number 4, set this to "4–4," and to extract Numbers 3 to 14, set this to "3–14."

Channel (MIDI Channel)

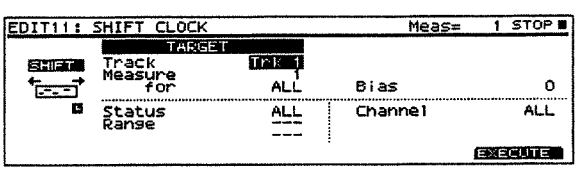
This sets the MIDI channel of the performance data to be extracted.
When you want to extract all of the performance data, set this to ALL, but if you want to extract the performance data on only a specific MIDI channel, select that MIDI channel.

* *This cannot be set when the SysEx, TuneReq, and PTNCall Status parameters are selected.*

Shifting Performance Data Forward and Back (Shift Clock)

This operation moves the timing of performance data in a specified range forward and back in clock increments. By slightly moving the performance data forward or back, you can lend a rushed/anticipation or lagging feeling to songs.

* *When Shift Clock results in data being shifted before the beginning of the song, that data is then moved to the song's beginning. If data is shifted after the end of the song, then a measure only of sufficient length to contain the shifted data is added to the end of the song. The beat of the added measure is the same as that of the preceding measure.*



Procedure

1. Press [SEQUENCER], then press [F3 (TRK EDIT)].
2. Press [F6 (MENU)] to select "MENU 3," then press [F1 (SHIFTCLK)].

* *You can also switch in the "TRACK EDIT MENU" screen by moving the cursor to "11 Shift Clock" and pressing [ENTER], or inputting [1] and [1] with the numeric keys and the pressing [ENTER].*

3. Move the cursor to the target track, then select the track or Pattern to undergo Shift Clock.
4. When setting the editing range with measures, move the cursor to "Measure" and set the measure number of the point where Shift Clock is to begin, then move the cursor to "for" and set the number of measures for which Shift Clock is to continue.
5. Move the cursor to the "Bias," then set the Shift Clock count.

6. Move the cursor to "Status," then select the performance data to be shifted.

To select Note, Poly Af, CC, or Pc, move the cursor to "Range" and set the range. The range for Note and Poly Af can also be set by pressing the keys on the keyboard.

7. Move the cursor to "Channel," then set the MIDI channel for the performance data to be shifted.

8. Press [F6 (EXECUTE)] to execute the operation.

Track (Target Track)

This selects the Phrase Track or Pattern to be shifted.
ALL: Phrase Tracks 1–16 and Tempo Track
TRK 1–TRK 16: Specified Phrase Track
Tempo: Tempo Tracks
PTN 1–100: Specified Pattern

Measure, for (Editing Range)

This specifies the range of data to be shifted.

Bias

This sets the number of clock increments for the shift. With positive (+) settings, the value will be added to the number of clocks to be edited. With negative (-) settings, the value will be subtracted from the number of clocks to be edited.

Status

This selects the performance data to be shifted.
ALL: All data is shifted.
Note: Note data is shifted.
Poly Af: Polyphonic Aftertouch data is shifted.
CC: Control Number data is shifted.
Pc: Program Number data is shifted.
Ch Af: Channel Aftertouch data is shifted.
P.BEND: Pitch Bend data is shifted.
SysEx: System Exclusive Message data is shifted.
TuneReq: Tune Request data is shifted.
PTNCall: Pattern Call Message data is shifted.

* *These parameters cannot be set when Tempo is selected as the target track.*

Range

This sets the range when either Note, Poly Af, CC, or PC is selected as the Status parameter.
To shift all Note or Polyphonic Aftertouch data, set "C1–G9." To shift C4, set "C4–C4," and to shift the range from C3 to C4, set "C3–C4."
If you wish to delete all controller numbers, select "0 - 127." If you wish to delete all program numbers, select "1 - 128." To shift Number 4, set this to "4–4," and to copy Numbers 3 to 14, set this to "3–14."

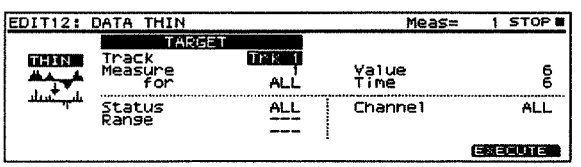
Channel (MIDI Channel)

This sets the MIDI channel of the performance data to be shifted.
When you want to shift all of the performance data, set this to ALL, but if you want to shift the performance data on only a specific MIDI channel, select that MIDI channel.

* *This cannot be set when Tempo is selected as the target track and the SysEx, TuneReq, and PTNCall Status parameters are selected.*

Thinning Out the Performance Data (Data Thin)

Shifting the values for Aftertouch, Pitch Bend, Expression, and other such data in a continuous fashion requires much more data than you may expect.
Data Thin, by thinning out this sort of data to a degree such that it does not become audible, can reduce the amount of data used, thereby increasing the amount of memory available for use by the sequencer.



* *Since the amount of memory used differs with changes in tempo and data, there is no one set answer to the matter of the degree to which data should be thinned. Try out a variety of different settings.*

Procedure

1. Press [SEQUENCER], then press [F3 (TRK EDIT)].

2. Press [F6 (MENU)] to select "MENU 3," then press [F2 (DATATHIN)].

* *You can also switch in the "TRACK EDIT MENU" screen by moving the cursor to "12 Data Thin" and pressing [ENTER], or by inputting [1] and [2] with the numeric keys and the pressing [ENTER].*

3. Move the cursor to the target track, then select the track or Pattern to undergo Shift Clock.

4. When setting the editing range with measures, move the cursor to "Measure" and set the measure number of the point where Data Thin is to begin, then move the cursor to "for" and set the number of measures for which Data Thin is to continue.
5. Move the cursor to the "Value," then set the data thinning rate.
6. Move the cursor to the "Time," then set the thinning time rate.
7. Move the cursor to "Status," then select the performance data to be thinned.

To select Poly Af or CC, move the cursor to "Range" and set the range. The range for Poly Af can also be set by pressing the keys on the keyboard.

8. Move the cursor to "Channel," then set the MIDI channel for the performance data to be thinned.
9. Press [F6 (EXECUTE)] to execute the operation.

Track (Target Track)
This selects the Phrase Track or Pattern containing the performance data to be thinned.
ALL: Phrase Tracks 1–16 and Tempo Track
TRK 1–TRK 16: Specified Phrase Track
PTN 1–100: Specified Pattern

Measure, for (Editing Range)
This specifies the range of data to be thinned.

Value
If you wish to thin the data heavily, select a large value. If you wish to thin the data lightly, select a small value.

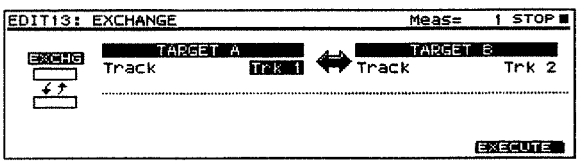
Time
If you wish to thin at long intervals, select a large value. If you wish to thin at short intervals, select a small value.

Status
This selects the performance data to be thinned.
ALL: All data is thinned.
Poly Af: Polyphonic Aftertouch data is thinned.
CC: Control Number data is thinned.
Ch Af: Channel Aftertouch data is thinned.
P.BEND: Pitch Bend data is thinned.

Range
This sets the range when either Poly Af or CC is selected as the Status parameter.
To thin all Polyphonic Aftertouch data, set "C1–G9."
To thin C4, set "C4–C4," and to thin the range from C3 to C4, set "C3–C4."
The range can also be set by pressing the keys on the keyboard.
If you wish to delete all controller numbers, select "0 - 127." If you wish to delete all program numbers, select "1 - 128." To thin Number 4, set this to "4–4," and to thin Numbers 3 to 14, set this to "3–14."

Channel (MIDI Channel)
This sets the MIDI channel of the performance data to be thinned.
When you want to thin all of the performance data, set this to ALL, but if you want to thin the performance data on only a specific MIDI channel, select that MIDI channel.

Exchanging Content Between Tracks or Patterns (Exchange)
This operation exchanges entire Phrase Tracks or Patterns.



Procedure
1. Press [SEQUENCER], then press [F3 (TRK EDIT)].
2. Press [F6 (MENU)] to select "MENU 3," then press [F3 (EXCHANGE)].

* *You can also switch in the "TRACK EDIT MENU" screen by moving the cursor to "13 Exchange" and pressing [ENTER], or by inputting [1] and [3] with the numeric keys and the pressing [ENTER].*

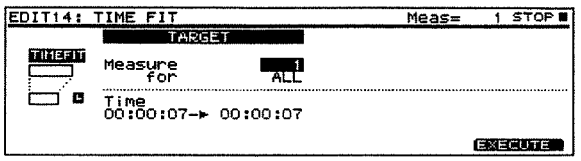
3. Move the cursor to the target track, then select the two Phrase Tracks or Patterns to be exchanged.
4. Press [F6 (EXECUTE)] to execute the operation.

* *The same value cannot be set for both tracks.*

Track (Target Track)
This selects the two Phrase Tracks or Patterns to be exchanged.

Adjusting the Song's Playback Time (Time Fit)

This operation measures the playback time of a song, then changes the Tempo Track data in order to fit playback of the song within a specified length of time.



Procedure

1. Press [SEQUENCER], then press [F3 (TRK EDIT)].
2. Press [F6 (MENU)] to select "MENU 3," then press [F4 (TIME FIT)].

* *You can also switch in the "TRACK EDIT MENU" screen by moving the cursor to "14 Time Fit" and pressing [ENTER], or by inputting [1] and [4] with the numeric keys and the pressing [ENTER].*

3. When setting the editing range with measures, move the cursor to "Measure" and set the measure number of the point where Time Fit is to begin, then move the cursor to "for" and set the number of measures for which Time Fit is to continue.
4. Move the cursor to the "Time," then set the playback time of the specified range in the target.
5. Press [F6 (EXECUTE)] to execute the operation.

Measure, for (Editing Range)

This specifies the range over which the playback time is measured and adjusted.

Time

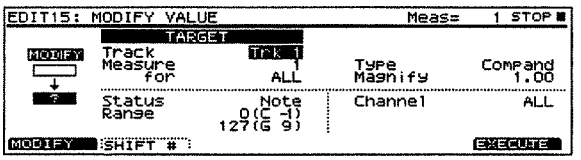
The time used to play back the target's specified range appears in parentheses. The playback time of the specified range in the target is set at the right of the arrow.

* *Setting overly high or low Time values results in Tempo values that exceed the allowable limit, preventing the specified change in playback time.*

In such instances, the message "Playback Tempo Range Over!" appears in the display, and data is created in which the closest time available within the allowable range is specified.

Converting Data (Modify Value)

This editing operation compresses, expands, and rearranges the values for the performance data.



Procedure

1. Press [SEQUENCER], then press [F3 (TRK EDIT)].
2. Press [F6 (MENU)] to select "MENU3", then press [F5 (MODIFY)]. In the "TRACK EDIT MENU" screen, you can switch by moving the cursor to "15 MODIFY VALUE" and pressing [ENTER], or pressing [1] and [5] in the numeric keys and then pressing [ENTER].
3. Move the cursor to TARGET "TRACK" and select the track or Pattern to be edited.
4. Move the cursor to "Measure" and set the measure number at which editing is to begin, then move the cursor to "for" to set the number of measures to be edited.

The following procedures for MODIFY and SHIFT# differ.

With MODIFY

5. Press [F1 (MODIFY)].
6. Move the cursor to "TYPE" and select "Compand" or "Reverse."

Selecting "Compand" allows you to alter data by a factor ranging from 0.00 to 2.00. When "Reverse" is selected, you can reverse or "flip" the values for the target data around a central reference value (64).

7. Move the cursor to "Status" and select the type of data to be edited. When selecting Note, Poly Af, or CC, move the cursor to "Range" and specify the range to be edited.
8. Move the cursor to "Channel" and set the MIDI channel for the data being edited.
9. Press F6 (EXECUTE).

With SHIFT#

5. Press [F2 (SHIFT #)].
6. Move the cursor to "Status" and select the type of data to be edited.
7. Move the cursor to "Source" and set the value for the source data being changed.
8. Move the cursor to "Destination" and select the resulting value for data being changed.
9. Move the cursor to "Channel" and set the MIDI channel for the data being edited.
10. Press F6 (EXECUTE).

Track (Target Track)

Select the track or Pattern for which the change is to be executed.

All: Phrase Tracks 1–16, Tempo Track
Trk 1–16
PTN 1–100

Measure, for (Edit Range)

These designate the range to be edited. "Measure" specifies the measure from which editing begins, and "for" specifies the number of measures from the beginning measure that editing is to continue.

Channel (MIDI Channel)

Specify the MIDI channels for which the change is to be executed. When ALL is selected, the change is executed for the data on all MIDI channels.

Status

Select the performance data to be changed.

Common to MODIFY and SHIFT#
Note: Note Number of Note message
CC: Control Change value
Velocity: Velocity of Note message

Only with MODIFY selected
Poly Af: Polyphonic Aftertouch
Ch Af: Channel Aftertouch value
P.Bend: Pitch Bend value
Velocity: Velocity of Note message

Only with SHIFT# selected
All Oct.: Note information Note Number and all Octaves including that note
PC: Program Change value

Range

Specify the range when Note, Poly Af, or CC is selected in the Status parameter.
When moving all Note or Polyphonic Aftertouch data, set this to "0 (C-1)–127 (G9)." If moving C4, set to "60 (C4)–60 (C4)," and if moving the notes ranging from C3 to C4, set this to "48 (C3)–60 (C4)."If you wish to delete all controller numbers, select "0 - 127." If you wish to delete all program numbers, select "1 - 128."

Correcting Performance Timing (Quantize)

What is Quantize?

Quantize is a function that corrects the timing of performance data recorded on the tracks to a prescribed rhythm to make uniform the timing of all notes, thus giving the song a better feeling of rhythm. The MC-80 features the following three type of Quantize.

Grid Quantize

This corrects the timing of the rhythm in terms of notes.

Shuffle Quantize

This adds a swing feel to the rhythm.

Groove Quantize

When using a prepared Groove Template, you can change to various different rhythms (you can also use rhythms from other songs).

<Preview Function>
You can check what the result of executing Quantize will be, even while parameters are still being set. This is called the Preview function.

* *Performances of Pattern Call Events assigned to Phrase Tracks as well as muted Phrase Tracks cannot be checked.*

Procedure

1. Press [SEQUENCER], then press [F2(QUANTIZE)].

2. Use [FWD] and [BWD] to specify the location at which preview will begin.

* *In Grid Quantize and Shuffle Quantize, playback of two measures is repeated; in Groove Quantize, four measures are played back repeatedly.*

* *If no notes are recorded within the Preview range, the performance cannot be checked.*

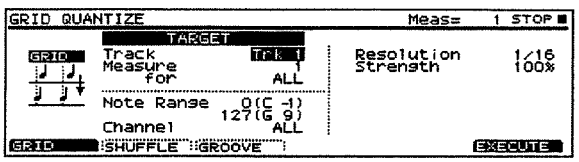
3. Press [PLAY] to change to Preview mode.

4. To cancel Preview, press [STOP].

* *To execute Quantize, press [F6 (EXECUTE)].*

Creating Uniform Timing (Grid Quantize)

Executing Grid Quantize will adjust the timing to intervals of the specified note value, so this can be used when you wish to correct the rhythm to make it exact.



Procedure

1. Press [F2(QUANTIZE)] in the "SONG PLAY" screen.

2. Press [F1 (GRID)] to switch to the "GRID QUANTIZE" screen.

3. Select the Phrase Track or Pattern to be quantized.

* *To select a Phrase Track for Quantize, press TRACK [1]–[16], turning on the indicator light for any TRACK button pressed. When selecting a Pattern for Quantize, press [PATTERN] and then specify the Pattern number.*

4. When setting the Quantize range with measures, move the cursor to "Measure" and set the measure number at which Quantize is to begin, then move the cursor to "for" and set the number of measures to be quantized.

5. Move the cursor to "Channel," then set the MIDI channel for the notes to which Quantize is applied.

6. Move the cursor to "Note Range," then specify the range within which the Quantize is applied.

This range can also be set by pressing the keys on the keyboard.

7. Move the cursor to "Resolution" and set the Quantize timing.

8. Move the cursor to "Strength" and set the degree of correction applied.

9. Press [F6 (EXECUTE)] to execute the operation.

Resolution

This sets the timing resolution in terms of notes. Set this to the shortest note within the Quantize range.

Strength

This sets the degree of correction based on the resolution set in the Resolution parameter.

To have the correction conform exactly to the divisions set in the parameter, set this to 100%. The lower this setting, the less exact the correction applied, with no correction made at 0%.

Track (Target Track)

This specifies the Phrase Tracks or Patterns to which Quantize is to be applied.

Track: Trk1–16

PTN: 1–100

Measure, for (Editing Range)

This specifies the Quantize range.

Channel (MIDI Channel)

This selects the MIDI channel for the notes to be quantized.

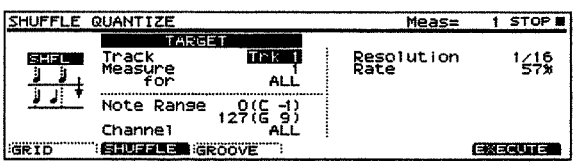
When you want to apply Quantize to all of the notes, set this to ALL, but if you want to apply Quantize only to the notes on a specific MIDI channel, select that MIDI channel.

Note Range

This specifies the range to be quantized.

Creating a Shuffle Rhythm (Shuffle Quantize)

Applying Shuffle Quantize imparts a bouncing, swinging feel to your performances.



Procedure

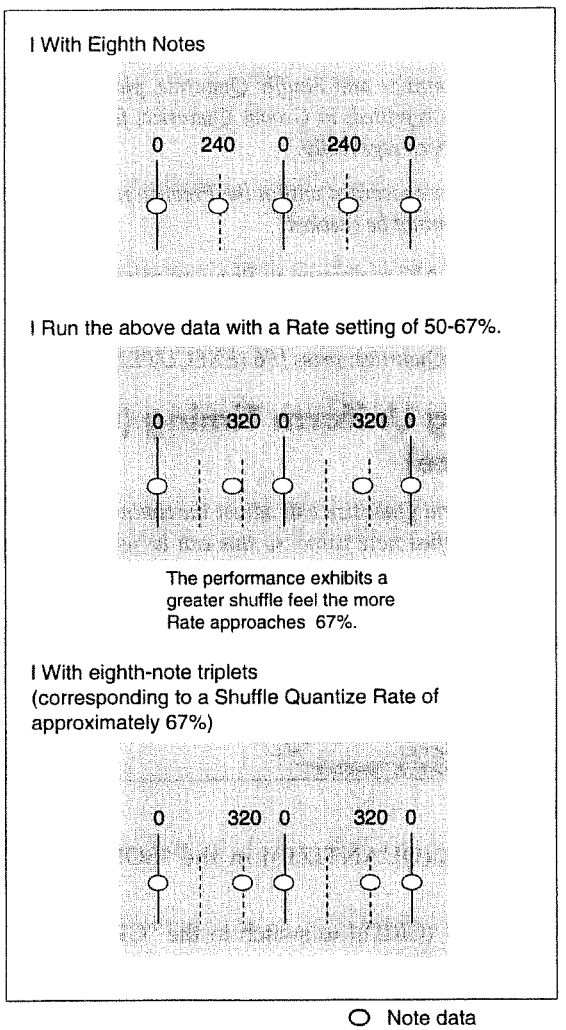
1. Press [SEQUENCER], then [F2 (QUANTIZE)].
1. Press [F2(QUANTIZE)] in the "SONG PLAY" screen.
2. Press [F2 (SHUFFLE)] to switch to the "SHUFFLE QUANTIZE" screen.
3. Move the cursor to "Resolution" and set the Quantize timing.
4. Move the cursor to "Rate" and set the degree of shift for the upstroke.
5. Move the cursor to the target track, then select the Phrase Track or Pattern to be quantized.

* *To select a Phrase Track for Quantize, press TRACK [1]–[16], turning on the indicator light for any TRACK button pressed. When selecting a Pattern for Quantize, press [PATTERN] and then specify the Pattern number.*

6. When setting the Quantize range with measures, move the cursor to "Measure" and set the measure number at which Quantize is to begin, then move the cursor to "for" and set the number of measures to be quantized.
7. Move the cursor to "Channel," then set the MIDI channel for the notes to which Quantize is applied.
8. Move the cursor to "Note Range," then specify the range within which the Quantize is applied.

This range can also be set by pressing the keys on the keyboard.

9. Press [F6 (EXECUTE)] to execute the operation.


I With Eighth Notes
0 240 0 240 0
I Run the above data with a Rate setting of 50-67%.
0 320 0 320 0
The performance exhibits a greater shuffle feel the more Rate approaches 67%.
I With eighth-note triplets (corresponding to a Shuffle Quantize Rate of approximately 67%)
0 320 0 320 0
Note data

Resolution

This sets the timing resolution in terms of notes. This can be set to either eighth or sixteenth notes.

Rate (Shuffle Quantize Rate)

This sets the separation of the notes based on the beat division set in the Resolution parameter.

At 50%, the timing of the upstroke of the beat is set exactly in the middle of the adjacent downstrokes. At 0%, the upstroke comes at the same time as the preceding downstroke. At 100%, the upstroke comes at the same time as the following downstroke.

Target Track

This specifies the Phrase Tracks or Patterns to which Quantize is to be applied.

Track: Trk1–16

PTN: 1–100

Measure, for (Editing Range)

This specifies the Quantize range.

Channel (MIDI Channel)

This selects the MIDI channel for the notes to be quantized.

When you want to apply Quantize to all of the notes, set this to ALL, but if you want to apply Quantize only to the notes on a specific MIDI channel, select that MIDI channel.

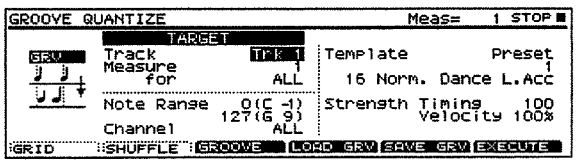
Note Range

This specifies the range to be quantized.

Adding Different Kinds of "Groove" to the Rhythm (Groove Quantize)

The MC-80 comes ready with 71 different Quantize templates. You can use these templates to add rhythm from a variety of musical genres. Select the ones that appeal to you and use them for Quantize.
Additionally, you can store up to sixteen templates of your own making. This lets you add the feel of your favorite songs to your performances.

* *The effect you get by applying Groove Quantize to performance data that contains timing discrepancies may not turn out as you expect. On such instances, first use Grid Quantize to correct the timing so that it is just as it appears on the score before applying Groove Quantize.*



Procedure

1. 1. Press the [SEQUENCER]-[F2 (QUANTIZE)] button, in that order.

2. Press [F3 (GROOVE)] to access the "GROOVE QUANTIZE" screen.

3. Move the cursor to "Track," and select the track or pattern that you wish to quantize.
To select a track, press [Track 1–16]. To select a pattern, press [PATTERN].

4. Move the cursor to "Measure," and specify the measure number at which you wish to begin quantizing. Move the cursor to "for," and specify the number of measures that you wish to quantize.

5. Move the cursor to "Note Range," and specify the range of notes that you wish to quantize.

6. Move the cursor to "Channel" and specify the MIDI channel of the notes that you wish to quantize.

7. Move the cursor to "Template," and select either Preset or User. Then move the cursor down and select the number.

8. Move the cursor to "Strength Timing," and specify the proportion by which notes will be moved toward the timings of the template.

9. Move the cursor to "Strength Velocity," and specify the proportion by which the velocity will be adjusted toward the velocities of the template.

10. Press [F6 (EXECUTE)] to execute.

Template Number

This selects the Template to be used. The MC-80's 71 ready-to-use Preset Groove Templates are numbered Preset 1–71, and the User Groove Templates that you can create are labeled User 1–16. Below it is displayed the name of the template.

* *When the MC-80's power is turned on, or when the User Groove Templates are loaded, User 1–16 are labeled Initial Template (as are initial settings). If any of the templates User 1–16 is selected while in this status, no effect is applied even when Groove Quantize is executed.*

The list of Preset Groove Templates is shown below.
1: Dance (small dynamics)
2: Dance (large dynamics)
3: Dance (light swing)
4: Dance (heavy swing)
5: Dance (dragging beats, small dynamics)
6: Dance (dragging beats, large dynamics)
7: Dance (dragging beats, light swing)
8: Dance (dragging beats, heavy swing)
9: Dance (pushing beats, small dynamics)
10: Dance (pushing beats, large dynamics)
11: Dance (pushing beats, light swing)
12: Dance (pushing beats, heavy swing)
13: Fusion (small dynamics)
14: Fusion (large dynamics)
15: Fusion (light swing)
16: Fusion (heavy swing)
17: Fusion (dragging beats, small dynamics)
18: Fusion (dragging beats, large dynamics)
19: Fusion (dragging beats, light swing)
20: Fusion (dragging beats, heavy swing)
21: Fusion (pushing beats, small dynamics)
22: Fusion (pushing beats, large dynamics)
23: Fusion (pushing beats, light swing)
24: Fusion (pushing beats, heavy swing)
25: Reggae (small dynamics)
26: Reggae (large dynamics)
27: Reggae (light swing)
28: Reggae (heavy swing)
29: Reggae (dragging beats, small dynamics)
30: Reggae (dragging beats, large dynamics)
31: Reggae (dragging beats, light swing)
32: Reggae (dragging beats, heavy swing)
33: Reggae (pushing beats, small dynamics)

34: Reggae (pushing beats, large dynamics)
35: Reggae (pushing beats, light swing)
36: Reggae (pushing beats, heavy swing)
37: Pops (small dynamics)
38: Pops (large dynamics)
39: Pops (light swing)
40: Pops (heavy swing)
41: Pops (dragging beats, small dynamics)
42: Pops (dragging beats, large dynamics)
43: Pops (dragging beats, light swing)
44: Pops (dragging beats, heavy swing)
45: Pops (pushing beats, small dynamics)
46: Pops (pushing beats, large dynamics)
47: Pops (pushing beats, light swing)
48: Pops (pushing beats, heavy swing)
49: Rhumba (small dynamics)
50: Rhumba (large dynamics)
51: Rhumba (light swing)
52: Rhumba (heavy swing)
53: Rhumba (dragging beats, small dynamics)
54: Rhumba (dragging beats, large dynamics)
55: Rhumba (dragging beats, light swing)
56: Rhumba (dragging beats, heavy swing)
57: Rhumba (pushing beats, small dynamics)
58: Rhumba (pushing beats, large dynamics)
59: Rhumba (pushing beats, light swing)
60: Rhumba (pushing beats, heavy swing)
61: Samba (for Pandeiro, etc.)
62: Samba (for Surdo, Timbale)
63: Axe (for Caixa)
64: Axe (for Surdo)
65: Salsa (for Cascala)
66: Salsa (for Conga)
67: Triplets
68: Quintuplets
69: Sextuplets
70: Septuplets over two beats
71: Lagging triplets

* *Preset Groove templates are set in 4/4 time. These may not be effective in performances in other beats.*

* *Remember that each template name is merely an indicator of the corresponding genre, and as such does not imply that the template cannot be used otherwise. Try each template in a variety of ways.*

Strength Timing:
This sets the note's degree of conformity to the template's timing. To have the timing conform precisely to the template's, set this to 100%. At 0%, the note is not shifted at all.

Strength Velocity:
This sets the note's degree of conformity to the template's velocity. At 100%, the note's velocity equals that of the template. At 50%, the velocity is set at a value half the difference of the template's velocity and the velocity of the original performance data. At 0%, no change is made in the velocity.

Track (Target Track)

This specifies the Phrase Track or Pattern to be quantized.
Track: Trk1–16
PTN: 1–100

Measure, for (Editing Range)

This specifies the Quantize range.

Note Range

This specifies the range to be quantized.

Channel (MIDI Channel)

This selects the MIDI channel for the notes to be quantized.
When you want to apply Quantize to all of the notes, set this to ALL, but if you want to apply Quantize only to the notes on a specific MIDI channel, select that MIDI channel.

<Some Points on Using Preset Groove Templates>
The Preset Groove Templates are the result of a variety of techniques employed to help ensure the right performance to suit your needs. Please refer to the following points when using the Preset Groove Templates.

Using Groove Quantize on the Drums and Bass

The drums and bass are the most important instruments in setting a groove for a performance. For that reason, the Preset Groove Templates have been created with these instruments in mind. When applying Groove Quantize to other instruments, toning down the effects for these instruments relative to the rhythm instruments will give you a more natural-sounding groove.

Correctly Specify the Starting Measure

The Preset Groove Templates are created as four-measure units. Just as there are strong and weak beats for the instruments, there are more prominent and less prominent measures used in the composition of the templates' four measures. For example, if song contains setup data recorded in the first measure, with performance data recorded starting at the second measure, then starting Groove Quantize from the Measure 1 results in discrepancies between the actual performance and the template. In this case, for Groove Quantize to be applied properly, you need to start from Measure 2. Determining the measure at which to start Groove Quantize in this fashion, with due consideration given to the musical aspects of composition

and melody, allows you to get the most effect.

Adjusting the Tempo

The reference tempo (in 4/4) set for the Preset Groove Templates ranges from 120 to 140 (beats per minute). When applying Groove Quantize to songs featuring faster tempos, set the timing strength to 100%, and if using with songs whose tempos are slower than the reference tempo range, set the Timing Strength to 100% or lower to get the most effect in you r performances.

To Add Swing Effectively

For effective swing feel, careful consideration of the tempo is important. For example, in Jazz, deepening the swing with slow tempos is effective. Conversely, making the swing somewhat shallow gives rapid tempos more urgency. Other techniques include adding heavy swing to songs with rapid Dance tempos to give a springing feel.

Try out various different templates to find the best swing effects.

Using the Preset Groove Template List to rapidly select the desired template

Although the Preset Groove Templates are arranged by genre, going through 71 different templates can be a problem.

Thus, by using the Preset Groove Template List on the following page, you can rapidly select the template you want.

16Beat Dance

	Light Accent Hard	Accent Light Swing	Hard Swing	
Normal	001:16 Norm. Dance L.Acc	002:16 Norm. Dance H.Acc	003:16 Norm. Dance L.Swg	004:16 Norm. Dance H.Swg
Heavy	005:16 Heavy Dance L.Acc	006:16 Heavy Dance H.Acc	007:16 Heavy Dance L.Swg	008:16 Heavy Dance H.Swg
Pushed	009:16 Pushed Dance L.Acc	010:16 Pushed Dance H.Acc	011:16 Pushed Dance L.Swg	012:16 Pushed Dance H.Swg

16Beat Fusion

	Light Accent Hard	Accent Light Swing	Hard Swing	
Normal	013:16 Norm. Fusion L.Acc	014:16 Norm. Fusion H.Acc	015:16 Norm. Fusion L.Swg	016:16 Norm. Fusion H.Swg
Heavy	017:16 Heavy Fusion L.Acc	018:16 Heavy Fusion H.Acc	019:16 Heavy Fusion L.Swg	020:16 Heavy Fusion H.Swg
Pushed	021:16 Pushed Fusion L.Acc	022:16 Pushed Fusion H.Acc	023:16 Pushed Fusion L.Swg	024:16 Pushed Fusion H.Swg

16Beat Reggae

	Light Accent Hard	Accent Light Swing	Hard Swing	
Normal	025:16 Norm. Reggae L.Acc	026:16 Norm. Reggae H.Acc	027:16 Norm. Reggae L.Swg	028:16 Norm. Reggae H.Swg
Heavy	029:16 Heavy Reggae L.Acc	030:16 Heavy Reggae H.Acc	031:16 Heavy Reggae L.Swg	032:16 Heavy Reggae H.Swg
Pushed	033:16 Pushed Reggae L.Acc	034:16 Pushed Reggae H.Acc	035:16 Pushed Reggae L.Swg	036:16 Pushed Reggae H.Swg

8Beat Pops

	Light Accent Hard	Accent Light Swing	Hard Swing	
Normal	037: 8 Norm. Pops L.Acc	038: 8 Norm. Pops H.Acc	039: 8 Norm. Pops L.Swg	040: 8 Norm. Pops H.Swg
Heavy	041: 8 Heavy Pops L.Acc	042: 8 Heavy Pops H.Acc	043: 8 Heavy Pops L.Swg	044: 8 Heavy Pops H.Swg
Pushed	045: 8 Pushed Pops L.Acc	046: 8 Pushed Pops H.Acc	047: 8 Pushed Pops L.Swg	048: 8 Pushed Pops H.Swg

8Beat Rhumba

	Light Accent Hard	Accent Light Swing	Hard Swing	
Normal	049: 8 Norm. Rhumba L.Acc	050: 8 Norm. Rhumba H.Acc	051: 8 Norm. Rhumba L.Swg	052: 8 Norm. Rhumba H.Swg
Heavy	053: 8 Heavy Rhumba L.Acc	054: 8 Heavy Rhumba H.Acc	055: 8 Heavy Rhumba L.Swg	056: 8 Heavy Rhumba H.Swg
Pushed	057: 8 Pushed Rhumba L.Acc	058: 8 Pushed Rhumba H.Acc	059: 8 Pushed Rhumba L.Swg	060: 8 Pushed Rhumba H.Swg

Samba
061: Samba 1 (Pandero etc)
062: Samba 2 (Surdo/Timba)

Axe
063: Axe 1 (Caixa)
064: Axe 2 (Surdo)

Salsa
065: Salsa 1 (Cascala)
066: Salsa 2 (Conga)

Tuplets
067: Triplets
068: Quintuplets
069: Sextuplets
070: 7 Against 2 QuaterNo
071: Lagging Triplets

Procedure

1. Select a genre.
Sixteen-beat templates include Dance, Fusion, and Reggae, and eight-beat templates include Pops, Rhumba, and Samba, Axe, and Salsa rhythms.

2. Select the groove along the vertical axis.
To have the beats match the notes the way they are actually played, select Normal; to have the notes played ahead of the beat, select Pushed; to have the notes lag behind the center of the beat, select Heavy.

3. Select the variation along the horizontal axis.
To add little in the way of dynamics, select Light Accent, and choose Hard Accent for wider dynamics; to add a mild swing feel, select Light Swing, and choose Heavy Swing for a stronger swing feel.

4. The cross between the selections from the vertical and horizontal axes yields the targeted template. Use the numeric keys to specify the template number.

For example, if you want to perform using a Fusion groove with a lagging beat and light swing, select "16 Heavy Fusion L. Swing." For Jazz-style performances, choose "16 Heavy Fusion H. Swing," and to perform in a style reminiscent of the '70s, select "8 Norm.Pops L.Acc."

* *Groove and variation are not selectable for the Samba, Axe, Salsa, and compound time templates.*

Creating an SMF for use as a User Groove Template

When you want to bring out the "groove" of a song you like, then make a User Groove Template using that song before running Groove Quantize. By saving a four-measure song file as a Standard MIDI File (SMF), you can then use it as a User Groove Template.

* *Create User Groove Templates with at least one centering on the drums and one with the bass as the focus. A song's groove is largely determined by the drums and bass, so create templates using other instruments only as needed.*

Procedure

1. Insert the disk into the disk drive.

2. Load the song that you wish to use as a user groove template into the MC-80. (p. 93)

3. Select four measures containing the note data that you wish to use as a user groove template, and use the track edit operations (p. 66) to delete the remainder.

4. Press [F5 (SAVE)].

5. Press [F4 (SMF-0)].
Only Standard MIDI Files in format 0 can be used as a user groove template.

6. Use the (left/right)[CURSOR] buttons to select the character location, and use the [VALUE] dial or [INC/DEC] to edit the name.

7. Press [F6 (OK)].
A display screen will appear, allowing you to specify the save destination.

8. Specify the save destination, and press [F6 (SAVE)].
If you attempt to save the data using an existing filename, the display will respond with "File Name duplicate. Overwrite?," giving you a chance to avoid losing your previous data.
If you really want to overwrite the data (replacing the old file), press [F6 (REPLACE)]. To halt the operation, press [F1 (CANCEL)].

A standard MIDI file that can be used as a user groove template has now been created.

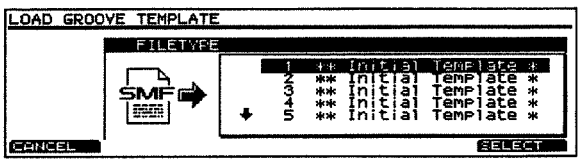
Loading an SMF as user groove template data

The SMF to be used for groove quantize must be loaded into User 1–16 before use.

* *Even with User Groove Templates User 1–16 loaded, if the power is cut or turned off, they revert to their initial status (Initial Templates). If you want the User Groove Templates to be left as User 1–16, save them to the disk as User Groove Template files (p. 92).*
* *If you load a Standard MIDI File (SMF) Format 0 song with no changes as one of the User Groove Templates User 1–16, the first four measures of the song are made a template. However, since the first four measures of many songs contain setup data and intro sections, the template may not be created properly. Refer to "Creating an SMF for use as a User Groove Template," and prepare a user groove template.*

Procedure

1. Insert a disk into the disk drive.
2. Press [SEQUENCER], followed by [F2 (QUANTIZE)], then press [F3 (GROOVE)].
3. Press [F4 (LOAD GRV)] to switch to the "LOAD TEMPLATE" screen.



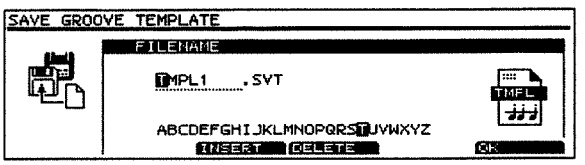
4. Press [F5 (SMF)].
5. Use VALUE dial to select a user groove template 1–16 as a loading destination, and press [F6(SELECT)].
6. Use the VALUE dial to select the standard MIDI file that you wish to load.
7. Press [F6 (LOAD SMF)] to load the User Groove Template.

Saving User Groove Templates to the Disk as a Group

You can combine the sixteen User Groove Templates loaded to User 1–16 as one file and then save that file to a disk. This is referred to as a User Groove Template file. While the User Group template is a Standard MIDI File, the User Group template file is saved as an MC-80-specific file type (with the extension .SVT)
When User Groove Template files are loaded into the MC-80, all User 1–16 User Groove Templates are rewritten, making this convenient for managing the files by musical genre.

Procedure

1. Insert a disk into the disk drive.
2. Press [SEQUENCER]-[F2 (QUANTIZE)]-[F3 (GROOVE)].
3. Press [F5 (SAVE GRV)] to switch to the "SAVE GROOVE TEMPLATE" screen.



4. Press [CURSOR (left)] or [CURSOR (right)] to move the cursor to the "File Name" character insert positions.
5. Press the numeric keys, press [INC] or [DEC], or rotate the [VALUE] dial to select the characters.
6. Repeat Steps 4 and 5 to name other User Groove Template files.
7. Press [F6 (EXECUTE)].

The extension ".SVT" is added.

* *If you attempt to save a file onto a disk containing another file of the same name, the combined confirmation message "File Already Exist!" appears in the display. To overwrite the old file and save the new, press [F5 (OK)]. To cancel the save, press [F6 (CANCEL)].*

8. Press [EXIT] to return to the "GROOVE QUANTIZE" screen.

Loading User Groove Template Files Into the MC-80

When User Groove Template files are loaded into the MC-80, the files replace the User Groove Templates User 1–16 all at once.

Procedure

1. Insert a disk into the disk drive.
2. Press buttons in the order of [SEQUENCER]-[F2(QUANTIZE)]-[F3(GROOVE)].
3. Press [F4(LOAD GRV)].

The "LOAD GROOVE TEMPLATE" screen appears.

4. Press [F6(TEMPLATE)].
5. Use [CURSOR] to select the template file that you wish to load.
6. Press [F6(LOAD SVT)].

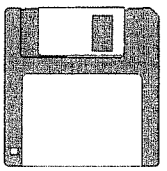
The template file will be loaded.

Chapter 9 Handling Files and Disks

Disks That the MC-80 Can Use

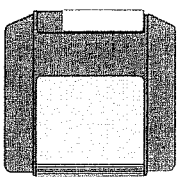
In addition to the standard floppy disk drive, the MC-80 also features an internal drive, and can also be connected to 7 external drives.
By expanding with hard disks and Zip drives, you can handle even greater numbers of song files.
(In contrast to the maximum of 1.4 megabytes on a floppy disk, a single Zip disk holds 100 megabytes, and hard disks can hold even greater amounts of data. Depending on the type of hard disk you use, the capacity will differ).

Floppy Disks



The MC-80 already comes with a floppy disk drive installed. 2DD (720KB) and 2HD (1440K = 1.4 MB) floppy disks can be used with this drive.

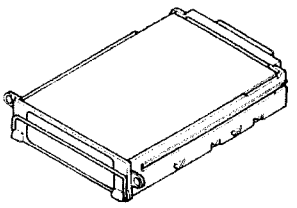
Zip Disks



You can expand the MC-80's capabilities by adding an internal Zip drive and, using the VS4S-1 SCSI interface, by adding an external Zip drive (internal Zip drive, Zip disks, and VS4S-1 are optional and sold separately). Up to two external Zip drives can be connected. The SCSI ID numbers (p. 105) for these Zip drives are restricted to 5 and 6.

* *For more detailed information and instructions on Zip disks and installing Zip drives, contact the nearest Roland service Center or authorized Roland distributer.*

Hard Disks



HDP-88 Series

You can also add an internal hard disk (HDP-88 Series). (The hard disk is sold separately).

* *Unlike floppy disks and Zip disks, the hard disk is not removed and exchanged, but instead remains within the drive.*

* *For more detailed information and instructions on installing the hard disk, refer to p. 102.*

Procedure for Saving Files (Save)

Data That Can Be Saved

You can save recorded or edited songs, Chains, and User Groove Templates. The unit for this type of saved data is called a "file." Up to each files can be saved to the disk.
The symbol written in parentheses distinguishes the file type, and is called an extension. Extensions are automatically added to the end of a file when it is saved.

•Song Files (.SVQ)
These are exclusive MC-80 song files, with the song itself, Patterns, Marker settings, Track Mute settings, and Repeat settings saved.

•Standard MIDI Files (.MID)
The Standard MIDI File (SMF), another file format for saving songs, is used for exchanging song data among a variety of different instruments. However, data particular to the MC-80, such as Patterns, Marker, Track Mute, and other settings, are not saved.

•Chain Files (.SVC)
These are Chain Play files (p. 35).

•User Groove Template Files (.SVT)
These are files containing groups of User Groove Templates (p. 87) that constitute the base material for Groove Quantize.

•Configuration Files (.SVF)
Group all the settings affecting the MC-80 as a whole and save them together in a file.
•When saved as Song Files, the following settings are saved.
(Some settings are not saved when the song is saved as a Standard MIDI File.)

	MC-80	SMF
Song	Yes	Yes
Patterns made in the song	Yes	Note 1
Marker settings	Yes	No
Repeat settings	Yes	No
TRACK INFO settings	Yes	Note 2
Phrase Sequence settings	Yes	No

Note 1: When the song is saved as an SMF, the Patterns used in the song are saved as track data.
Note 2: When the song is saved as an SMF, no muted tracks are saved.
Note 3:Tempo Track Mute On and Off settings cannot be saved.

Song Files (.SVQ)/Standard MIDI Files (.MID)

Saving composed and editted song files to the disk.

Procedure

1. Press [SEQUENCER].

2. Press [F5 (Save)].
The "SAVE SONG" window opens.

3. Press [F4–F6] to select the file type to be saved.

Available settings

F6 (MC-80): Exclusive MC-80 file, with the song, Patterns, Marker, and Repeat settings saved.
F5 (SMF-1): Multi-track SMF.
F4 (SMF-0): SMF with data from all channels on one track.

Next, input the file name.

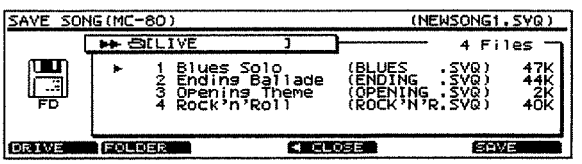
4. Press [CURSOR (Left)] or [CURSOR (Right)] to move the cursor to the positions where the characters are to be input.

5. Rotate the [VALUE] dial or press [INC/DEC] to select the characters.
In this screen, F3 and F4 conveniently function as character input keys.
[F3 (INSERT)]: Press to insert a character at the cursor position.
[F4 (DELETE)]: Press to delete the character at the cursor position.

6. When you have finished naming the song, press [F6 (OK)].
The window for specifying the save destination opens.

7. Press [F1 (DRIVE)] and select the drive to which you want to save the file.

8. If you are using folders, select the folder which contains the file you wish to load.
Use [CURSOR] to select the folder, and press [F5 (OPEN ▶)] (pressing [F4 (◀ CLOSE)] moves to the folder which contains the folder that is currently selected).



9. Press [F6 (SAVE)].
The same name is already on the disk, the message "File '(File Name)' already exists!" appears in the display. If you want to replace the previous file with the new one, deleting the older file in the process, press [F6 (REPLACE)]. If you do not want to delete the file on the disk, press [F1 (CANCEL)] to cancel the save, then after first giving the new file a different name, save it to the disk.

* *Data in SMF files loaded onto the MC-80 that have copyright notices (p. 58) cannot be saved.*

* *Data in SMF files loaded onto the MC-80 that have copyright notices (p. 58) can be saved in MC-80 format. However, the data cannot be then saved again in SMF format.*

Procedure for Saving Chain Files (.SVC)

Edited Chains are saved in the 'CHAIN PLAY" screen.

Procedure

1. Using the procedure described on p. 35, create a Chain.

2. Press [F5 (SAVE CHN)].
The "SAVE CHAIN" screen appears.

3. Press [CURSOR (Left)] or [CURSOR (Right)] to move the cursor to the positions where the characters are to be input.

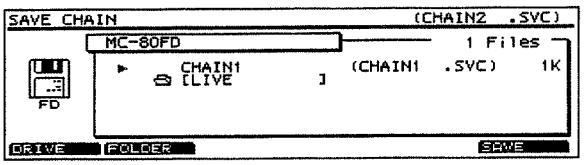
4. Rotate the [VALUE] dial or press [INC/DEC] to select the characters.
In this screen, F3 and F4 conveniently function as character input keys.

[F3 (INSERT)]: Press to insert a character at the cursor position.
[F4 (DELETE)]: Press to delete the character at the cursor position.

5. When you have finished naming the Chain, press [F6 (OK)].
The window for specifying the save destination opens.

6. Press [F1 (DRIVE)] and select the drive to which you want to save the file.

7. Select the save destination folder.
Press [CURSOR] to select the folder, then press [F5 (OPEN ▶)] (pressing [F4 (◀ CLOSE)] moves to the folder which contains the folder that is currently selected).



8. Press [F6 (SAVE)] to execute the save.
The same name is already on the disk, the message "File '(File Name)' already exists!" appears in the display. If you want to replace the previous file with the new one, deleting the older file in the process, press [F6 (REPLACE)]. If you do not want to delete the file on the disk, press [F1 (CANCEL)] to cancel the save, then after first giving the new file a different name, save it to the disk.

User Groove Template Files (.SVT)

Edited User Groove Templates are saved in the 'GROOVE QUANTIZE" screen.

Procedure

1. Using the procedure described on p. 88, create a User Groove Template.

2. Press [F5 (SAVE GRV)].
The "SAVE GROOVE TEMPLATE" screen appears.

3. Press [CURSOR (Left)] or [CURSOR (Right)] to move the cursor to the positions where the characters are to be input.

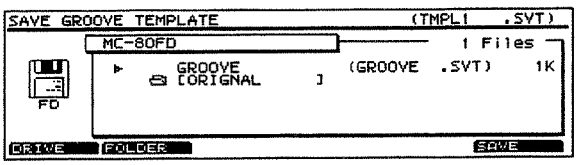
4. Rotate the [VALUE] dial or press [INC/DEC] to select the characters.
In this screen, F3–F4 conveniently function as character input keys.
[F3 (INSERT)]: Press to insert a character at the cursor position.
[F4 (DELETE)]: Press to delete the character at the cursor position.

5. When you have finished naming the file, press [F6 (OK)].

The window for specifying the save destination opens.

6. Press [F1 (DRIVE)] and select the drive to which you want to save the file.

7. Select the save destination folder.
Press [CURSOR] to select the folder, then press [F5 (OPEN ▶)] (pressing [F4 (◀ CLOSE)] moves to the folder which contains the folder that is currently selected).



8. Press [F6 (SAVE)] to execute the save.
The same name is already on the disk, the message "File '(File Name)' already exists!" appears in the display. If you want to replace the previous file with the new one, deleting the older file in the process, press [F6 (REPLACE)]. If you do not want to delete the file on the disk, press [F1 (CANCEL)] to cancel the save, then after first giving the new file a different name, save it to the disk.

Configuration Files (.SVF)

Group all the settings affecting the MC-80 as a whole and save them together in a file.

Procedure

1. Press [TOOLS].

2. Press [F1 (SYSTEM)].

3. Press [F5 (SAVE CFG)].
The SAVE SYSTEM CONFIG screen appears.

4. Press [CURSOR (LEFT)] or [CURSOR (RIGHT)] to move the cursor to the positions at which you want to input a character.

5. Rotate the [VALUE] dial or press [INC/DEC] to select the characters.
F3–F4 control convenient functions for inputting characters in this screen.
[F3 (INSERT)]: This inserts a character at the cursor position.
[F4 (DELETE)]: This deletes the character at the cursor position.

6. When you have finished determining the name, press [F6 (OK)].

7. Press [F7 (DRIVE)] to select the destination for the configuration file.

8. When using a folder, select the save destination folder.

Press [CURSOR] to select the save destination folder, then press [F5 (OPEN ▶)] (pressing [F4 (◀ CLOSE)] moves you to the folder in which the currently selected folder is included).

9. Press [F6 (SAVE)].

The configuration file is saved.

The same name is already on the disk, the message "File '(File Name)' already exists!" appears in the display. If you want to replace the previous file with the new one, deleting the older file in the process, press [F6 (REPLACE)]. If you do not want to delete the file on the disk, press [F1 (CANCEL)] to cancel the save, then after first giving the new file a different name, save it to the disk.

Procedure for Loading Files (Load)

Loading Data

Load the saved song, Chain, or User Groove Template in the MC-80's internal memory.

•Song Files (.SVQ)

This loads songs exclusive to the MC-80, with Patterns, Marker settings, and Track Mute settings being loaded along with the songs themselves.

•Standard MIDI Files (.MID)

This loads Standard MIDI Files (SMF) that have been save on a different device, or commercial SMF song data.

•Super MRC Song Files

You can load songs from the Roland MC-50 Series, and from the MC-300/500 Series (only when Super MRC is used).

•Chain Files (.SVC)

These are Chain Play files (p. 35).

•User Groove Template Files (.SVT)

You can load and use files created from sixteen User Groove Templates that have been combined into one file while loaded in the MC-80.

•Configuration Files (.SVF)

Group all the settings affecting the MC-80 as a whole and save them together in a file.

Song Files (.SVQ)/Standard MIDI Files (.MID)

This describes the procedure for loading MC-80 song files and Standard MIDI Files.

* *For instructions on loading other types of songs, please see p. 94.*

Procedure

1. Insert a disk into the disk drive.

2. Press [SEQUENCER], then press [SELECT].

The "SONG SELECT" screen appears.

3. Press [F1 (DRIVE)], then select the drive.

By pressing [F2 (SORT)] you can sort in order of song name or file name.

4. To select a song in a folder, move the cursor to the folder, then press [F5 (OPEN ▶)] to display the folder contents.

5. Move the cursor to the song to be loaded.

6. Press [F6 (LOAD)].

The song is loaded into the MC-80.

* *Pressing [PLAY] instead of carrying out Step 6 begins playback of the song. In this case, if an MC-80 song, the song is played back without being loaded into the MC-80. This method of playback is called Quick Play. (p. 27)*

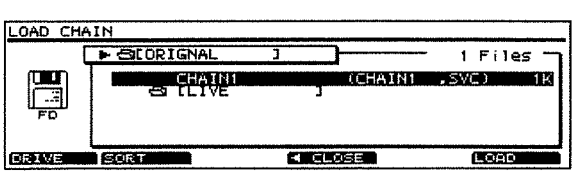
Chain Files (.SVC)

This describes the procedure for loading Chain files, which are composed of a number of songs played one after another.

Procedure

1. Press [CHAIN PLAY].

The "CHAIN PLAY" screen appears.



2. Press [F4 (LOAD CHN)].

3. Press [F1 (DRIVE)] to select the drive.
By pressing [F2 (SORT)] you can sort in order of song name or file name.

4. To select a song in a folder, move the cursor to the folder, then press [F5 (OPEN ▶)] to display the folder contents.

5. Move the cursor to the song to be loaded.

6. Press [F6 (LOAD)].
The chain file is loaded into the MC-80.

* *If a song in the chain is not on the disk, "NO SONG" appears in the display. Press the Eject button to eject the disk, then replace with a disk containing the specified song.*

If [END] is pressed, the song is omitted, and the next song is played back.

* *XP-50/60/80 chain files cannot be loaded by the MC-80.*

User Groove Template Files (.SVT)

Procedure

1. Press [SEQUENCER].

2. Press [F2 (QUANTIZE)].
If Quick Play is in progress, a message will ask you to verify that you wish to load that song. If you wish to load, press [F6(LOAD)]. If you decide not to load, press [F1(CANCEL)].

3. Press [F3 (GROOVE)].
The "GROOVE QUANTIZE" screen appears.

4. Press [F4 (LOAD GRV)].

5. Press [F6 (TEMPLATE)].

6. Press [F1 (DRIVE)] to select the drive.
By pressing [F2 (SORT)] you can sort in order of song name or file name.

7. To select a song in a folder, move the cursor to the folder, then press [F5 (OPEN ▶)] to display the folder contents.

8. Move the cursor to the template files to be loaded.

9. Press [F6 (LOAD SVT)].

The file is loaded.

Configuration Files (.SVF)

The file is loaded into the MC-80.
Group all the settings affecting the MC-80 as a whole and save them together in a file.

Procedure

1. Press [TOOLS].

2. Press [F1 (SYSTEM)].

3. Press [F5 (LOAD CFG)].
The LOAD SYSTEM CONFIG screen appears.

4. Press [F1 (DRIVE)] to select the drive from which the configuration file is to be read.

5. When using a folder, select the save destination folder.
Press [CURSOR] to select the save destination folder, then press [F5 (OPEN ▶)] (pressing [F4 (◀ CLOSE)] moves you to the folder in which the currently selected folder is included).

6. Press the [CURSOR] buttons or rotate the [VALUE] dial to select the configuration you want to load.

7. Press [F6 (LOAD)].
The configuration file is loaded.

Loading Songs from Other Roland's Devices

The MC-80 can load and play certain types of song files. Additionally, depending on the type, song files saved as Standard MIDI Files can be loaded into the MC-80.The loading procedure is the same as for MC-80 song files.

Types of Song Files That Can Be Loaded (1)

Song files formatted in the following formats can be loaded into the MC-80 as is.
However, Marker, Repeat, and other data particular to the MC-80 is not loaded.

- XP-80, XP-60, XP-50, MC-500MKII, MC-50, MC-50MKII, JV-1000
- MC-300, MC-500 (Super MRC files only)

Types of Song Files That Can Be Loaded (2)

Files created on the devices listed below can be loaded into the MC-80 if they are saved as Standard MIDI Files.
If a device not on this list, or a device from another manufacturer can save and load Standard MIDI Files, then those songs can be exchanged between the MC-80 and that device.
SB-55, SD-35, MV-30, JW-50, G-1000, G-800, MT Series, KR Series, HP Series, and others

Regarding the Loading of Standard MIDI Files

- SMF Format 0 contains numerous channels on one track. When the MC-80 loads a SMF format 1 file, all data will be loaded into track 1. If you wish to load each channel of this data into a separate track, use the following procedure to make settings.

  Procedure

  1. Press buttons in the order of [TOOLS]-[F1 (SYSTEM)]-[F2 (OPTION)].

  2. Move the cursor to "SMF FORMAT0 ch Extract Switch."

  3. Turn the setting "ON."

  4. Load the SMF format 0 song. (p.93)

- SMF Format 1 contains numerous channels over many tracks. If the SMF Format 1 data features more than sixteen tracks, Track 17 and above are combined and loaded into the MC-80's Track 16. Furthermore, Tracks 34 and above are not loaded.

Types That Cannot Be Loaded

The MC-80 cannot load songs created any device not listed above which cannot save files in SMF format.

Using MC-80 Songs on Other Devices

If you save an MC-80 song as a Standard MIDI file (SMF) (p. 91), it can be used by another device.

- The device must be compatible with the Standard MIDI File (SMF) format.
- Floppy disks must be of either the 2DD or 2HD type, and they must be compatible with the devices being used.
- When saving a song on the MC-80 in SMF format, do not save the song to the folder.

Functions Related to Files and Folders

Copying Files and Folders (Copy)

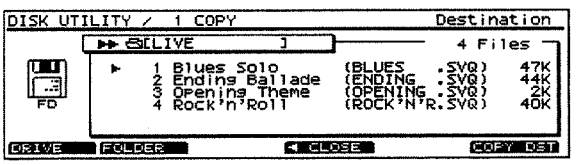
You can duplicate a file or folder. When you copy a folder, all files in the folder will be copied at the same time.

Procedure

1. Insert the disk with the file you wish to copy into the disk drive.

* *It is not possible to copy between multiple disks using a single drive.*

2. Press [TOOLS].
3. Press [F5 (DISKUTIL)].
4. Press [F6 (MENU)] to select the "FILE MENU."
5. Press [F1 (COPY)].
The copy source selection window opens.
6. Move the cursor to the file or folder that is to be the copy source.
7. Press [F6 (COPY SRC)].
The window for selecting the copy destination appears in the display.
8. Go to the copy destination.
The screen shown below appears in the display, and a copy is placed in the "LIVE" folder.



9. Press [F6 (COPY DST)].
The copy is executed.
If an identically-named file or folder exists in the copy destination, the display will indicate "Path Duplicate!," and it will not be possible to execute the copy.
This function can also be executed on two or more files simultaneously.

1. Move the cursor to one of the files that you selected in step 6.
2. Press [ENTER].

Now you can select multiple files. (The cursor will change to a box, and checkmarks will be added to the filenames that are selected.)

3. Move the cursor to any additional files that you wish to select.

4. Press [ENTER].
The second file will be selected.
Repeat steps 3 and 4 to select additional files.

* *To return from selecting multiple files back to selecting an individual file, press [EXIT].*

* *To remove one file from the selection, move the cursor to that file and press [ENTER].*

Deleting Files and Folders (Delete)

A file or folder that was written to disk can be deleted. When you delete a folder, all files in that folder will also be deleted.

Procedure

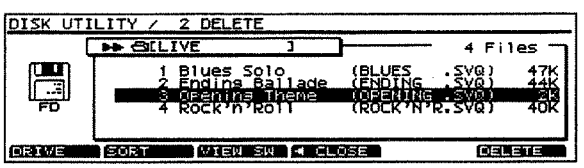
1. Press [TOOLS].

2. Press [F5 (DISKUTIL)].

3. Press [F6 (MENU)] to select the "FILE MENU."

4. Press [F2 (DELETE)].
The delete selection window opens.

5. Move the cursor to the file or folder that is to be deleted.



6. Press [F6 (DELETE)].
The screen for confirmation appears.

7. Press [F6 (DELETE)].
The file or folder is deleted.

This function can also be executed on two or more files simultaneously.

1. Move the cursor to one of the files that you selected in step 5.

2. Press [ENTER].
Now you can select multiple files. (The cursor will change to a box, and checkmarks will be added to the filenames that are selected.)

3. Move the cursor to any additional files that you wish to select.

4. Press [ENTER].
The second file will be selected.
Repeat steps 3 and 4 to select additional files.

* *To return from selecting multiple files back to selecting an individual file, press [EXIT].*

* *To remove one file from the selection, move the cursor to that file and press [ENTER].*

Moving Files and Folders to a Different Location (Move)

A file or folder can be moved to a different location. When you move a folder, all files within that folder will also be moved.

Procedure

1. Press [TOOLS].

2. Press [F5 (DISKUTIL)].

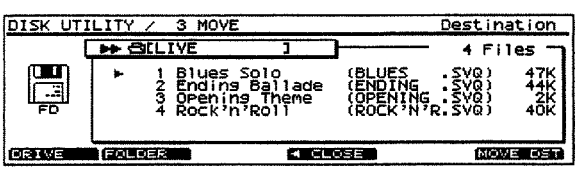
3. Press [F6 (MENU)] to select the "FILE MENU."

4. Press [F3 (MOVE)].
The move source selection window opens.

5. Move the cursor to the file or folder that is to be moved.

6. Press [F6 (MOVE SRC)].
The window for selecting the move destination appears in the display.

7. Press [CURSOR] to move to the move destination.
The screen shown below appears in the display, and the file or folder is moved to the "LIVE" folder.



8. Press [F6 (MOVE)].
The move of the file or folder is executed.
If an identically-named file or folder exists in the copy destination, the display will indicate "Path Duplicate!," and it will not be possible to execute the copy.
This function can also be executed on two or more files simultaneously.

Procedure

1. Move the cursor to one of the files that you selected in step 5.
2. Press [ENTER].

Now you can select multiple files. (The cursor will change to a box, and checkmarks will be added to the filenames that are selected.)

3. Move the cursor to any additional files that you wish to select.
4. Press [ENTER].

The second file will be selected.
Repeat steps 3 and 4 to select additional files.

* *To return from selecting multiple files back to selecting an individual file, press [EXIT].*
* *To remove one file from the selection, move the cursor to that file and press [ENTER].*

Changing File Names and Folder Names (Rename)

You can change the name of a file or folder once it is named.

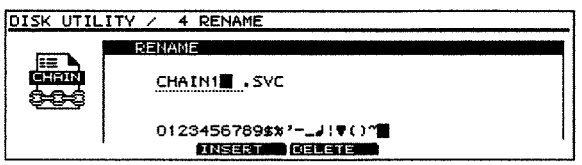
Procedure

1. Press [TOOLS].
2. Press [F5 (DISKUTIL)].
3. Press [F6 (MENU)] to select the "FILE MENU."
4. Press [F4 (RENAME)].

The "DISK UTILITY/4 RENAME" screen appears.

5. Press [F1 (DRIVE)] to select the drive, press [F4 (CLOSE)] or [F5 (OPEN)] to select the folder, then move the cursor to the file or folder you want to rename.
6. Press [F6 (RENAME)].

The screen for editing the name appears in the display.

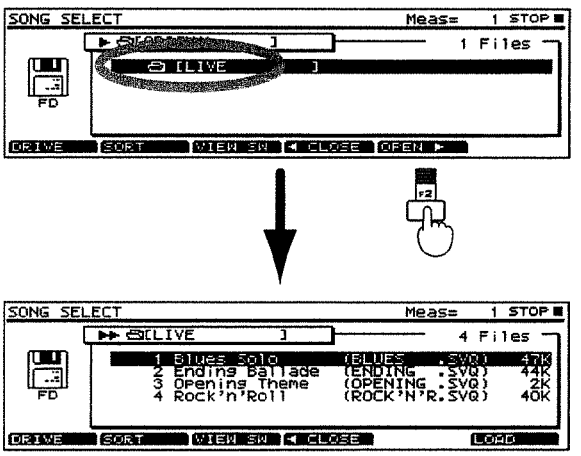


7. Press the [CURSOR] buttons to specify the character input positions, and rotate the [VALUE] dial or press [INC/DEC] to select the characters.
8. When you have finished changing the characters, press [F6 (WRITE)].

The name is changed.

Managing Files with Folder (Folder)

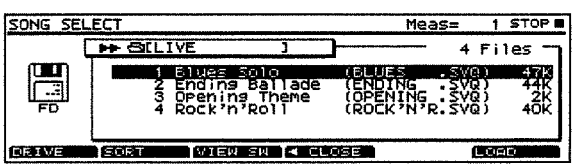
The MC-80 features a "Folder" function to help you manage files on disks.
When large numbers of files reside on these high-capacity Zip disks and hard disks, looking for a particular file can be very troublesome. Therefore, creating folders classified by musical genre or application is a convenient way to make the task of finding a file much easier.



Procedure

1. Press [TOOLS].
2. Press [F5 (DISKUTIL)].
3. Press [F6 (MENU)] to select the "FILE MENU."
4. Press [F5 (FOLDER)].
5. Move the cursor to the location where you want a folder made.

When the following screen appears in the display, and a new folder is created within the "LIVE" folder.



6. Press [F6 (FOLDER)].
7. The screen for naming the new folder then appears. Name the folder by pressing [CURSOR] to specify the character input positions, rotating the [VALUE] dial to select the characters.

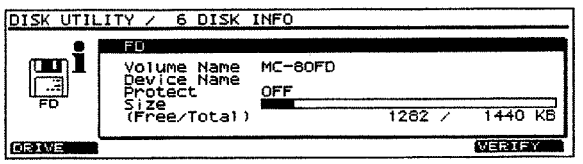
8. Press [F6 (OK)], and creation of the folder is completed.

* *Folders can also be created during the save procedure for each type of file.*

Disk Functions

Checking the Content of a Disk (Disk Info)

Here you can view the disk name, the type of disk drive (device name), the write protect status, and the disk size and remaining capacity.



Procedure

1. Insert the disk whose contents you wish to view into the disk drive.
2. Press [SEQUENCER], and then press [TOOLS].
3. Press [F5 (DISKUTIL)].
4. Press [F6 (MENU)] to select the "DISK MENU."
5. Press [F1 (DISKINFO)].

The "DISK UTILITY/6 DISK INFO" screen appears in the display. Check the disk's contents.

Volume Name: the name of the disk
Device Name: the type of drive
Protect: write protection status
Size: the total capacity and available space of the disk

* *In the case of a floppy disk, you can use F6 (VERIFY) to verify whether the disk has been damaged. If the results of the check show that nothing is wrong with the disk, "Completed" appears in the display. If there is a problem with the disk. Damaged or problem disks cannot be used.*
* *In the case of a Zip disk, you can use F5 (PROTECT) to turn write protection on/off.*

6. Press [F1(DRIVE)], and select the drive that you wish to view.
7. After you have checked the disk, press [SEQUENCER]; the "SONG PLAY" screen returns to the display.

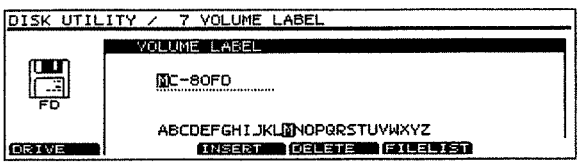
Changing the Name of a Disk (Volume Label)

This changes the disk's name. As with floppy disks and Zip disks, you can change the name of any removable disk that can be exchanged.

Procedure

1. Insert the disk whose name you wish to change into the disk drive.
2. Press [SEQUENCER], and then press [TOOLS].
3. Press [F5 (DISKUTIL)].
4. Press [F6 (MENU)] to select the "DISK MENU."
5. Press [F2 (LABEL)].

The "DISK UTILITY/7 VOLUME LABEL" screen appears in the display.



6. Select the drive whose name you wish to change.
7. Press the [CURSOR] buttons to select the characters, and rotate the [VALUE] dial or press [INC/DEC] to change the name.
8. When you have finished changing the name, press [F6 (WRITE)].

When the work is finished, "Completed!" appears in the display.

* *By pressing [F5(FILELIST)] you can view the contents of the disk.*

9. Press [SEQUENCER] several times to return to the "SONG PLAY" screen.

* *By pressing [F3(INSERT)] you can add a character at the cursor location. By pressing [F4(DELETE)] you can delete the character at the cursor location.*

Copying (Disk Copy)

This copies the disk.

- Executing this procedure deletes all data from the copy destination disk. Proceed after making sure that no important files remain on the disk.
- Disks containing commercial SMF data cannot be copied, as the material is protected by copyright.

- Copy floppy disks to other floppy disks, and Zip disks to other Zip disks. However, you can copy Zip disks only when two or more Zip disk drives are available for use.
- Copy 2HD-type floppy disks only to other 2HD floppy disks, and 2DD-type floppy disks only to other 2DD floppy disks.

Procedure

1. Press [SEQUENCER], then press [TOOLS].
2. Press [F5 (DISKUTIL)].
3. Press [F6 (MENU)], then select "DISK MENU."
4. Press [F3 (DISKCOPY)].
5. If copying a floppy disk, press [F6 (FD)]; if copying a Zip disk, press [F6 (ZIP)].

The procedures that follow differ for floppy disks and Zip disks.

For Floppy Disks

6. Insert the floppy disk being used as the copy source into the disk drive.

The name of the disk is displayed; confirm that the disk is the one you want to use as the copy-source disk.

Pressing [F5 (FILELIST)] allows you to see the files contained on the disk. After checking the contents, press [F6 (OK)] to return to the previous screen.

7. After confirming that the copy-source disk is correct, press [F6 (OK)].

Loading of the copy-source disk begins.

* *To cancel loading, press [F1 (ABORT)].*

After a few moments, "Insert Destination Disk" appears in the display.

8. Eject the copy source disk, and then insert the copy-destination disk.

The name of the disk is displayed; confirm that the disk is the one you want to use as the copy-destination disk.

* *Pressing [F5 (FILELIST)] allows you to see the files contained on the disk. After checking the contents, press [F6 (OK)] to return to the previous screen.*

9. After confirming that the copy-destination disk is correct, press [F6 (OK)].
10. A screen then appears in the display with a message warning that the contents of the copy-destination disk will be lost. To execute the copy, press [F6 (DISKCOPY)]; to cancel the copy operation, press [F1 (CANCEL)].

Writing of the data to the copy-destination disk begins.

* *If large amounts of internal memory are being used, the display may indicate "Insert Source Disk." If this occurs, insert the copy source disk into the disk drive once again. Then follow the directions that appear in the display, and repeat the procedure until the display indicates "DISK COPY Completed."*

11. When copying of the data is finished, "DISK COPY Completed" appears in the display.
12. Press [F6 (ACCEPT)].

For Zip Disks

6. Insert the Zip disk being used as the copy source into the disk drive.

If the copy-source disk is already inserted in the drive, press [F1 (DRIVE)] to select the disk drive containing the copy-source disk.

* *Pressing [F5 (FILELIST)] allows you to see the files contained on the disk. After checking the contents, press [F6 (OK)] to return to the previous screen.*

7. After confirming that the copy-source disk is correct, press [F6 (OK)].
8. Insert the Zip disk to be used as the copy destination into another Zip disk drive.

If the copy-destination disk is already inserted in the drive, press [F1 (DRIVE)] to select the disk drive containing the copy-destination disk.

9. After confirming that the copy-destination disk is correct, press [F6 (OK)].
10. A screen then appears in the display with a message warning that the contents of the copy-destination disk will be lost. To execute the copy, press [F6 (DISKCOPY)]; to cancel the copy operation, press [F1 (CANCEL)].

Writing of the data to the copy-destination disk begins.

11. When copying of the data is finished, "DISK COPY Completed" appears in the display.
12. Press [F6 (ACCEPT)].

Formatting a Disk for Use with the MC-80 (Format)

Disks have to be formatted for their particular use. Format both new disks as well as disks used previously with other devices so that they may be used with the MC-80.

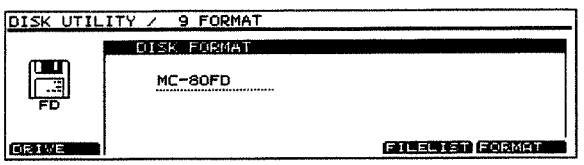
Once formatted, the disk can thereafter be used as an MC-80 disk.

Note: Executing this procedure deletes all data from the disk. Use the device on with which the disk was previously used to make sure that no crucial data remains on the disk.

Procedure

1. Press [TOOLS].
2. Press [F5 (DISKUTIL)].
3. Press [F6 (MENU)] to select the "DISK MENU."
4. Press [F4 (FORMAT)].

The "DISK UTILITY/9 FORMAT" screen appears.



5. Press [F1 (DRIVE)] to select the disk that you wish to format.
6. Press [F6 (FORMAT)].

First, name the disk.

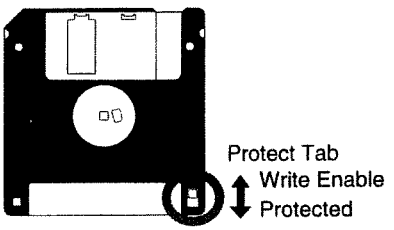
7. Press the [CURSOR] buttons to determine which characters form the row of characters to use, and rotate the [VALUE] dial or press [INC/DEC] to input the characters.
8. When you have finished adding the name, press [F6 (FORMAT)].
9. A warning message of "All data on the disk will be lost" will appear. If you wish to execute the operation, press [F6 (FORMAT)]. If you decide not to format, press [F1 (CANCEL)].
10. When formatting is finished, "Completed!" appears in the display.
11. Press [F6 (ACCEPT)].
12. Press [EXIT] several times to return to the "SONG PLAY"or "QUICK PLAY" screen.

Setting and Removing Overwrite Protection for Floppy Disks

In order to prevent accidental erasure of files or disks, you can prevent data from being written to the disk.
To protect floppies, set the protect tab found at the corner of the disk.

Procedure

Set the tab as shown below.



Setting and Removing Overwrite Protection for Zip Disk

Just as with floppy disks, you can prevent data from being written to Zip disks. However, instead of a sliding tab on the disk, write protection for Zip disks can be set with a procedure on the MC-80, one disk at a time.
Note: Zip Disks can be formatted as Protected Disks.

Procedure

1. Press [SEQUENCER], then press [TOOLS].
2. Press [F5 (DISKUTIL)].
3. Press [F6 (MENU)], then select "DISK MENU."
4. Press [F1 (DISKINFO)].
5. Insert the disk to be set into the disk drive.

The information for the inserted disk is displayed; check the "Protect" location in the screen.
If set to ON, the disk is protected against overwriting; if OFF appears, then the disk may be overwritten.

* *If "Password" appears in the display, then the write protection cannot be removed on the MC-80. If you wish to use such disks on the MC-80, remove the write protect feature with the device used to set it in the first place.*

6. To change the "Protect" setting, press [F5 (PROTECT)].

Each press of the button alternately turns the setting on and off.

7. When you have finished making the setting, press [SEQUENCER] to return to the "SONG PLAY" screen.

Adding a Hard Disk or Zip Drive

Acceptable Drives

The MC-80 can be expanded by adding a Zip drive or hard disk. Additional options include installing an internal hard disk and connecting another external drive using a specialized connector (optional, sold separately) and cable.

The MC-80's Internal Drive

You can install one high-capacity internal drive, either Zip drive or hard disk.

Installing the Internal Zip Drive

The internal Zip drive is installed by Roland Service. Refer to the customer information card to find your nearest Roland office, Service Station, or Service Spot.

Installing the Internal Hard Disk

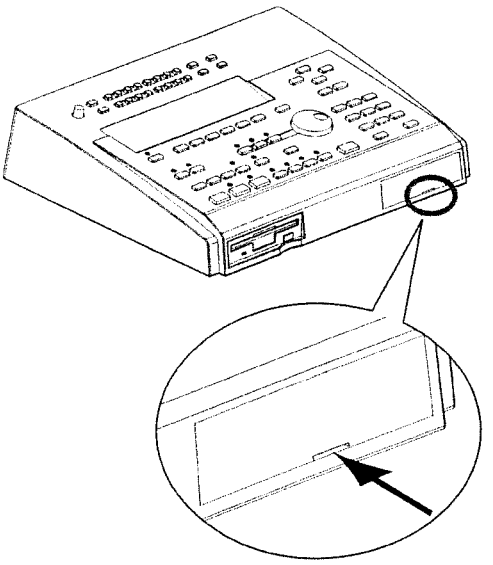
You can install the Roland HDP88 Series Hard Disk as the internal hard disk.

Precautions When Installing the Internal Hard Disk

- Use a Philips head screwdriver, and make sure the blade size matches the screw heads. Using the incorrect size may strip the screw heads.
- When installing the hard disk, use only the screws specified.
- Take care not to allow the screws or any other foreign matter to fell into the MC-80's interior.
- Do not touch any of the connectors or circuitry.
- Take care not to cut your hand on the opening of the installation slot.
- After finishing the installation, reconfirm that the installation was performed correctly.
- After installation is complete, replace the slot cover to close the opening.

Procedure

1. Turn off the power for the MC-80 and any connected devices, and disconnect any cables connected to the MC-80.
2. Wrap the tip of a flat head screwdriver with a cloth or similar material and insert it as shown in the figure.

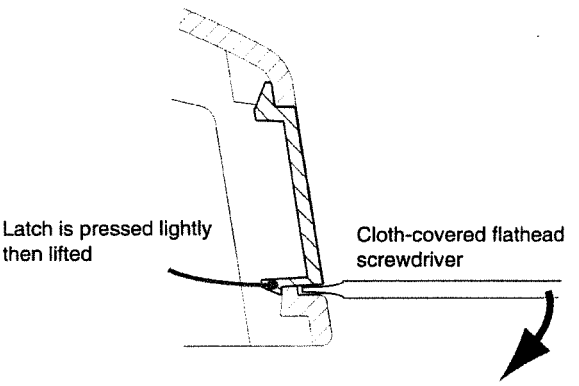


Insert a flathead screwdriver covered with a cloth or similar material into the groove.

Caution: Inserting the screwdriver directly without covering the tip can scratch the body. Always cover the tip first.

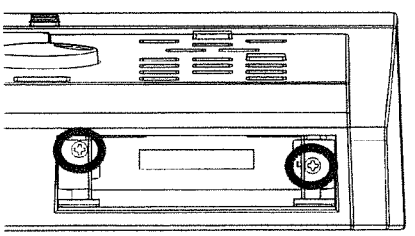
3. Gently push the screwdriver downwards to remove the cover.

Cross-Sectional View



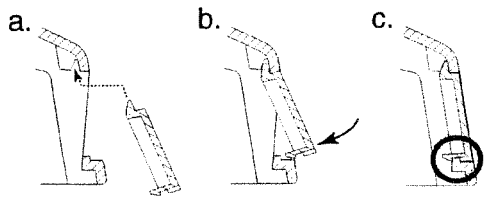
4. Remove the screws from the positions shown in the figure.

(The screws removed are use to affix the hard disk in Step 6.)



5. With the hard disk's warning sticker facing upwards, gently insert the hard disk into the installation slot, and check to make sure the unit has been fully inserted.
6. Using the screws removed in Step 4, reattach the hard disk.
7. After repositioning the grip on the front hard disk, return the front panel cover to its original position.

Getting the cover as close to vertical as possible makes it easier to fit.



a. First align the upper part.

Getting the cover as close to vertical as possible makes it easier to fit.

b. Press at the point indicated by the arrow in the figure.

c. The clasp secures the cover.

8. Using the procedure described on p. 99, initialize the hard disk.
9. Using the procedure described in "Turning on the Power" (Quick Start p. 4), turn the power on to confirm that the MC-80 starts up normally.

* *The icon below appears in the display when the MC-80 starts up if internal hard disk is operating properly.*

Installation du disque dur interne

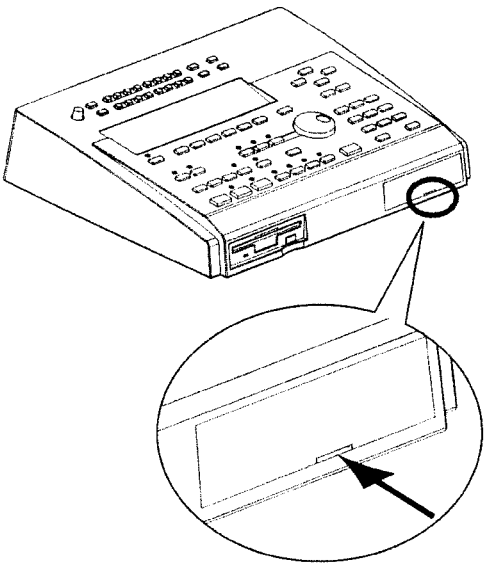
Il est possible d'équiper cet appareil d'un disque dur de la série HDP88 de Roland.

Précautions à prendre lors de l'installation du disque dur interne.

- Utiliser un tournevis cruciforme bien ajusté à la tête des vis. L'utilisation d'un tournevis inapproprié pourrait endommager les vis.
- Lors de l'installation du disque dur, enlever seulement les vis indiquées.
- Faire attention de ne pas échapper les vis enlevées ou tout autre objet à l'intérieur du MC-80.
- Ne pas toucher les circuits ou le connecteur.
- Faire attention de ne pas se couper la main avec l'ouverture.
- Lorsque l'installation est terminée, vérifier à nouveau si tout a été installé correctement.
- Lorsque l'installation est terminée, remettre la plaque protectrice sur l'ouverture du MC-80 et refermer.

Ordre des manipulations:

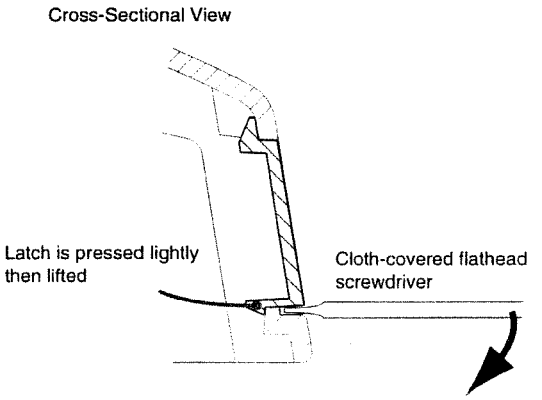
1. Éteindre tous les appareils branchés au MC-80 et débrancher tous les câbles qui y sont reliés.
2. Couvrir d'un morceau de tissu le bout d'un tournevis et l'introduire dans la fente indiquée sur le schéma.



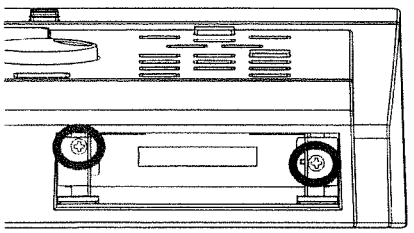
Insert a flathead screwdriver covered with a cloth or similar material into the groove.

Attention: Si le tournevis est introduit directement sans protection, le corps de l'appareil sera endommagé. Ne pas omettre d'utiliser un morceau de tissu.

3. Pousser doucement le tournevis vers le bas et enlever la plaque.



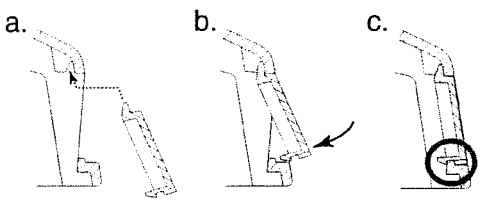
4. Enlever les vis correspondant à celles du schéma. (Les vis détachées serviront à fixer le disque dur à l'étape 6.)



5. Diriger la face du disque dur où est collée l'étiquette des indications vers le haut. L'introduire doucement dans l'ouverture et bien l'enfoncer jusqu'au fond.

6. Utiliser les vis enlevées à l'étape 4 pour fixer le disque dur.

7. Une fois la face avant du disque dur bien fixée, remettre la plaque à sa place.



a. Enclencher d'abord la partie du haut.

Plus la plaque sera en position verticale, plus elle s'insérera facilement.

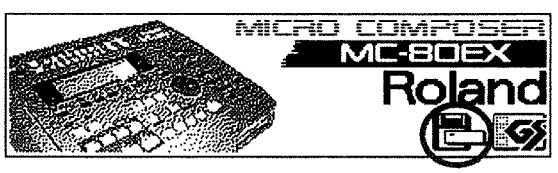
b. Pousser à l'endroit indiqué par la flèche.

c. Pousser jusqu'à ce que la languette s'enclenche.

8. En suivant les indications de la page 99, initialiser le disque dur.

9. Allumer l'appareil en suivant les indications "Allumer l'appareil" (quick start p.4) et vérifier si l'appareil démarre normalement.

* *Quand le disque dur interne fonctionne correctement, le dessin ci-dessous apparaît lors du démarrage du MC-80.*



About the MC-80's External Drive

With the optional VS4S-1 SCSI Board installed, you can add a SCSI connector to the MC-80, allowing installation of an additional external Zip drive. Installation of the VS4S-1 is performed by Roland Service. Refer to "Information (p. 170)" to find your nearest Roland office, Service Station, or Service Spot.

About the VS4S-1 Owner's Manual

Your version of the VS4S-1 Owner's Manual may refer to the VS4S-1 as being exclusively for use with the Roland Model VS-840. However, it can be used with the MC-80 without any problems. Additionally, the descriptions in the Owner's Manual refer to procedures for the VS-840, but when using the VS4S-1 with the MC-80, please read and use the explanations contained in this Owner's Manual.

Items Necessary for Connecting the VS4S-1

- Zip drive unit
- SCSI cable with DB-25 type connector (male) and connector matching the external drive's

* Zip drives' internal terminators can be switched on and off. Turn "ON" the "Termination" switch located on the back of the Zip drive that is last in the connected chain.

Connecting the Zip Drive

Connect the SCSI connector of the VS4S-1 with the Zip drive.

Procedure

1. Turn off the power to the MC-80 and the Zip drive.

2. Using a SCSI cable, connect the MC-80 and the Zip drive.

Align the connectors, press them together, then tighten the fastening screws.

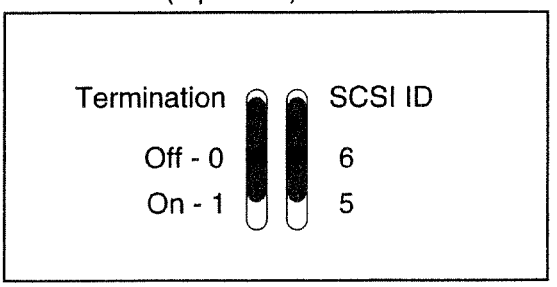
* *Disconnecting SCSI connectors during use may result in damage to the equipment, so be sure to securely fasten all connections.*

Setting the SCSI ID

A SCSI ID is an identification number that distinguishes different devices connected to the MC-80, with each device assigned a different number. Set the number for each drive.

•For Zip drives, set the switch as shown below. Zip drives can be set to SCSI ID 5 or 6.

Rear Panel (Zip Drive)



Formatting the Disk

Format the disk the first time it is to be used with the MC-80.

* *Formatting is necessary the first time a hard disk is used with the MC-80.*

* *With Zip drives, format each new disk.*

Note: Formatting a disk erases all data on that disk. If a disk to be formatted contains any data, check the contents of the disk using the device with which it was last used (or similar type) before formatting.

Procedure

Use the procedure described on p. 99.

Precautions When Turning On the Power

Use the following procedure when turning on the power to the MC-80. A mistake in the sequence will result in the drive not being recognized.

1. Turn on the power to the Zip drive.
2. Turn on the power to the MC-80.
3. If you the figure below is displayed, it means that the drive has been recognized and that startup has occurred normally.

* *If you do not see the figure below, use the sequence described below in "Precautions When Turning Off the Power" to turn off the power, then check the connections.*

Chapter 10 Overall Settings for the MC-80

Precautions When Turning Off the Power

Caution: Failing to follow this sequence when turning off the power may result in loss of data and damage to the drive. Be sure to carry out this procedure before turning off the power to the equipment.

Procedure

1. Press [SEQUENCER].
2. While holding down the [SHIFT] button, press the [STOP] button.
3. A confirmation screen appears in the display. Press [F6 (SHUTDOWN)] to carry out the procedure.

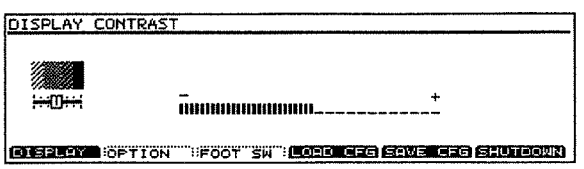
* *Disks inserted in Zip drives are automatically ejected.*

4. When "Please remove the floppy disk" appears in the display, press the EJECT button and then remove the floppy disk.
5. When "The MC-80 may now be shut down safely" appears in the display, press the POWER button to turn off the power.

* *This operation cannot be run while playing/ recording is in progress. First press the STOP button to stop recording then proceed with the operation.*

Adjusting the Display Contrast

This adjusts the contrast (brightness) of the display. As you rotate the [VALUE] dial toward the right, the display will become darker.
Adjust the display contrast according to the light levels and the viewing angle of the display.



Procedure

1. Press [TOOLS], then [F1 (SYSTEM)], and then [F1 (DISPLAY)].
2. Rotate the [VALUE] dial to adjust the display.

Rotate the dial to the right for greater contrast, to the left for less contrast.

3. Press [EXIT] to return the previous screen.

* *You can also adjust the contrast by holding down [SEQUENCER] or [CHAIN PLAY] and rotating [VALUE] dial.*

What is a Configuration File?

The configuration file is the file that contains settings affecting the entire MC-80 as a whole. By saving these settings to the disk as a file, you can call up the file with the settings that are always used in one step. The parameters for each of the following screens in the configuration file.
For detailed information regarding loading and saving of configuration files, refer to p. 92 and p. 94.

•Parameters Stored in a Configuration File

OPTION Screen
([TOOLS]-[F1 (SYSTEM)]-[F2 (OPTION)])
SMF Format0 Ch Extract Switch

FOOT SWITCH SETUP Sxreen
([TOOLS]-[F1 (SYSTEM)]-[F3 (FOOT SW)])
Foot SwL Mode
Foot SwL Polarity
Foot SwR Mode
Foot SwR Polarity

METRONOME SETUP Screen
([TOOLS]-[F2 (METRONOME)])
Mode
Interval
Beep
MIDI Output
Channel
Gate time
Accented Note
Accented Note Velocity
Normal Note
Normal Note Velocity

MIDI INPUT SWITCH Screen
([TOOLS]-[F3 (MIDI)]-[F2 (INPUT SW)])
Note
PAf
PC
CAf
PB

SysEx
CC
Mod
Foot
Volume
Pan
Exp
Hold
Sost
Soft
Breath
Effect
RPN/NRPN

MIDI SETUP Screen

([TOOLS]-[F3 (MIDI)]-[F1 (SETUP)])
MIDI Patch Mode
SEQ MIDI IN
SEQ MIDI Out
SEQ To V-EXP
Thru Select
Soft Thru

SYNC Screen

([TOOLS]-[F3 (MIDI)]-[F3 (SYNC)])
Sync Mode
MIDI Sync Out
MTC Sync Out
MTC Frame Mode
MTC Offset Time
MTC Error Level
MMC Mode
MMC Output

Using a Footswitch

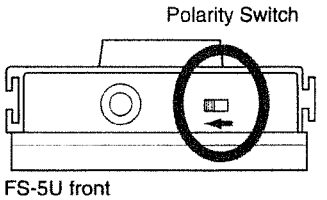
By connecting an optional BOSS FS-5U footswitch to the FOOT SW connector on the MC-80's rear panel, you can use the footswitch to perform operations on the MC-80.

Basic Settings

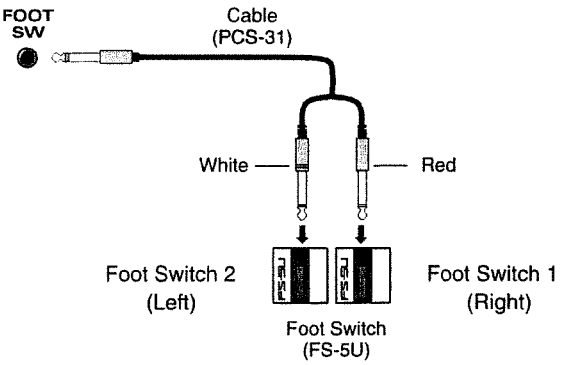
You can use two footswitches by connecting them with the PCS-31 special-purpose cable. You can set the functions described below for each of the footswitches. (Only one FS-5U can be used if connected with a monaural audio cable. In this case, the functions listed under FOOT SW 1 remain available.)

Procedure

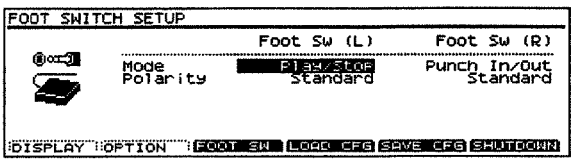
1. Set the FS-5U POLARITY switch to the position shown in the figure below.



2. Connect the footswitch as shown above.



3. Press the [TOOLS], [F1 (SYSTEM)], and [F3 (FOOT SW)] buttons, in that sequence.
The "FOOTSWITCH SETUP" screen appears.



4. Press the footswitch that you want to set.
FOOT SW L and R can be set.

5. Use the cursor buttons to move the cursor to the "Mode" setting of the foot switch that you wish to set.

6. With the [VALUE] dial and [INC/+] and [DEC/-] buttons, set the footswitch functions.

•Mode

Available Settings

Play/Stop: Perform playback and stop operations.

Punch In/Out: When recording with Manual Punch-in (p. 43), enable/disable recording.

Top: Jump to the beginning of the song.

End: Jump to the end of the song.

Repeat ON/OFF: Switch repeat on/off.

Mark Jump 1: Jump to marker 1.

Mark Jump 2: Jump to marker 2.

Mark Jump 3: Jump to marker 3.

Mark Jump 4: Jump to marker 4.

Fade Out: Fade out.

Tap: Set the tap tempo.

7. Use the cursor buttons to move to the right of "Polarity," and select "Standard."

8. Press [EXIT] to return the "SONG PLAY" screen.
Returning to the screen immediately before the "FOOTSWITCH SETUP" screen enables the foot switch.

When Using a Pedal From a Different Manufacturer

When using a different manufacturer's pedal whose polarity is opposite that of Roland pedals, the pedal may not function correctly.
In this case, set the Polarity setting in Step 7 to "Reverse."
•Polarity

Available Settings

Standard: Set to this when using a Roland footswitch (With the FS-5U, set the switch to "Standard," as was done in Step 1 of the basic settings).

Reverse: If the MC-80 is not functioning properly with a pedal from another manufacture connected, switch the Polarity setting to Reverse.

Setting the MC-80 to Ignore Specific MIDI Data

You can set the MC-80 to either receive or ignore MIDI data according to the type of MIDI data sent. If any data sent from the MIDI keyboard is unnecessary, you can set the MC-80 not to receive this data.
If the message type is set to ON, the data is received; when set to OFF, the data is blocked.

Procedure

1. Press the [TOOLS], [F3 (MIDI)], and [F2 (INPUT SW)] buttons, in that sequence.
The "SEQ MIDI INPUT SWITCH" screen appears.

2. Press the cursor buttons to move the cursor to the name of the message type you want to set.

3. Press [INC/+] to enable reception of those messages; press [DEC/-] to disable reception.
A check mark (✔) appears at the messages that can be received; nothing appears for messages not received.

4. When you have finished making this setting, press [EXIT] to return to the previous screen.

Messages That Can Be Set

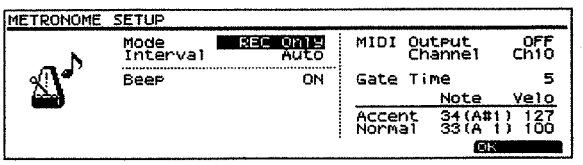
Note
Poly Af (Polyphonic Aftertouch)
PC (Program Change)
Ch Af (Channel Aftertouch)
PB (Pitch Bend)
SysEx (System Exclusive)
CC (Control Change)
0, 1, 2, 4, 7, 10, 11, 64, 65, 66, EFFECTS (91–95), RPN/NRPN (101, 100, 98, 99, 6)

* *EFFECTS changes Control Change 91–95 on and off all as one group.*

* *RPN/NRPN changes Control Change 101, 100, 98, 99, 6 on and off all as one group.*

Setting the Metronome

This controls the different settings used in playing the metronome.



Procedure

1. Press [TOOLS].

2. Press [F2 (METRONOME)].
The "METRONOME SETUP" screen appears.
The following settings can be adjusted in this window.

Determining When the Metronome Plays

You can set the metronome sound to play or not play according to the MC-80's function.

Procedure

Use the procedure described in "Setting the Metronome" to display the settings screen, then move the cursor to "Mode" and make the settings.

Available Settings

OFF: The metronome does not play, regardless of the operation of the MC-80.
Play Only: The metronome plays only during playback.
Rec Only: The metronome plays only during recording.
Play & Rec: The metronome plays during playback and recording.
Always: The metronome plays as long as the power is turned on, regardless of the operation of the MC-80.

Changing the Metronome Beat Intervals

Use the procedure described in "Setting the Metronome" on p. xx to display the settings screen, then move the cursor to "Interval" and make the settings.

Available Settings

Auto: The metronome's beat is set automatically to that of the current song.
1/2: The metronome sounds at half-note intervals.
3/8: The metronome sounds at dotted quarter-note intervals.
1/4: The metronome sounds at quarter-note intervals.
1/8: The metronome sounds at eighth-note intervals.
1/12: The metronome sounds ateighth-note triplet intervals.
1/16: The metronome sounds at sixteenth-note intervals.

* *The metronome is automatically set to "Auto" whenever a new song is selected.*
* *When set to "Auto," the metronome plays at the beat set for the song.*

Determining Whether the Metronome Sound is to Played by the Internal Sound or a Sound generator

With initial settings, the MC-80's internal sound plays the metronome sound.

Procedure

Use the procedure described in "Setting the Metronome" on p. 108 to display the settings screen, then move the cursor to "Output" and make the settings.

Available Settings

Beep: The sound from the internal sound plays.
MIDI: The sound from the external sound generator plays. This allows the metronome sound to be played by an external sound generator or by the VE-GS Pro.
Beep & MIDI: The metronome sound is played by both the internal sound and an external sound generator.

Selecting Where the Metronome Note Messages are Directed

This determines the send destination when the metronome sound is played by an external sound generator. In the MIDI SETUP screen, switch the output destination between the MIDI OUT connector and the VE-GS Pro.

Procedure

Use the procedure described in "Setting the Metronome" on p. 108 to display the settings screen, then move the cursor to "MIDI Output" and make the settings.

Available Settings

1Only: The messages are sent to MIDI OUT 1 and the VE-GS Pro Part Group A
2Only: The messages are sent to MIDI OUT 2 and the VE-GS Pro Part Group B
1&2: Data will be transmitted from both MIDI OUT1 and 2.

Metronome Sound Settings

This determines the MIDI channel and gate time when the metronome sound is played by an external sound module.

Procedure

Use the procedure described in "Setting the Metronome" on p. 108 to display the settings window, then move the cursor to "Channel" and "Gate Time," and make the settings.

Range

MIDI Channel: 1–16; This sets the channel number.
Gate Time: 1–10; As the Gate Time value is increased, the note will sound for a longer period of time. However depending on the sound source, there may be no change in some cases.

Setting the Metronome's Strong and Weak Beats

This determines the Note Number and Velocity (volume) when an external sound module is used to play the metronome sound.

Procedure

Use the procedure described in "Setting the Metronome" on p. 108 to display the settings window, then move the cursor to "Note" and "Velocity," and make the settings.

Settings Values

Note: 0 (C -1) – 127 (G9)
Vel: 1–127

Parameter

The values are set for both Note Number and Velocity.

Transmitting the Track 10 data preferentially

Procedure

1. Press [SEQUENCER] then press [F1 (SETUP)].

The "SONG INFO" screen appear

2. Move the to "TRK10 High Priority Play Switch"

3. Press [INC/+] to set "ON"
4. Press [SEQUENCER] to return to "SONG PLAY" or "QUICK PLAY."

Chapter 11 Using the Internal Sound Generator (VE-GS Pro)

The VE-GS Pro (sold separately) is a GS-compatible voice expansion board that adds sound generator functionality to the MC-80. Boasting the same level of performance offered by the SC-88 Pro series, it features a maximum of 32 parts, providing the functionality of two ordinary sound modules, making it very convenient for live performances, composing, playback of songs, or any musical application with the MC-80.

Installing the VE-GS Pro

The VE-GS Pro is installed by placing it in the expansion slot in the MC-80's bottom panel (The MC-80EX features the VE-GS Pro pre-installed, making this procedure unnecessary).

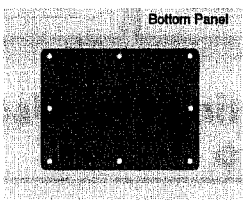
Note: Expansion boards other than the VE-GS Pro, such as those designed for Roland's JV/XP Series, VS Series, and TD-10 V-Drums, cannot be used with the MC-80.

* *To avoid the risk of damage to internal components that can be caused by static electricity, please carefully observe the following whenever you handle the board.*

- *Before you touch the board, always first grasp a metal object (such as a water pipe), so you are sure that any static electricity you might have been carrying has been discharged.*
- *When handling the board, grasp it only by its edges. Avoid touching any of the electronic components or connectors.*
- *Save the bag in which the board was originally shipped, and put the board back into it whenever you need to store or transport it.*

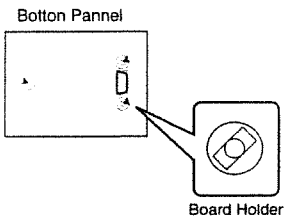
Procedure

1. Before installing the VE-GS Pro, turn off the MC-80's power and unplug the power cord from the outlet.
2. Remove the four screws from the MC-80's bottom panel and remove the cover.

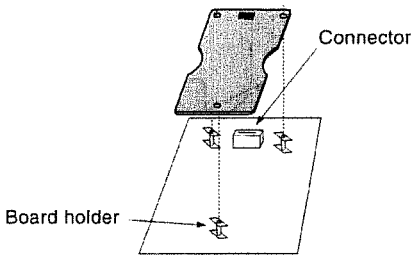


* *Do not remove any screws except those indicated in the diagram.*

3. Position the board holder so that it is facing in the direction shown in the figure.



4. Completely and securely connect the expansion board connector to the MC-80's connector. At this point, make sure that the three holder tops protrude from the expansion board.



5. 5. Using the locking tool included with the board, turn the board holder clockwise just 1/4 of a turn, and the board will be fixed to the unit.

* *When circuit board installation is compelte, double-check your work.*

6. Close the cover, then attach the cover using the screws removed in Step 2.

* *Do not touch any of the connectors or circuitry.*

* *Do not force the board into the slot. If you find it difficult to insert the board, pull it out first before inserting it again.*

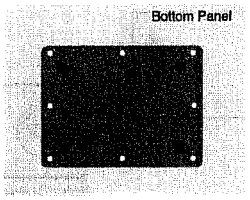
* *Do not leave the board lying about where it can be stepped on or be damaged.*

Installation du VE-GS Pro

Le VE-GS Pro s'installe en l'introduisant dans le créneau pour carte d'extension à la base du MC-80.
(Le MC-80EX étant déjà équipé d'une carte VE-GS Pro, cette étape n'est pas nécessaire.)
Attention: Avec le MC-80, il est impossible d'utiliser des cartes d'extension autres que la VE-GS Pro comme celles pour la série Roland JV/XP, pour la série VS ou pour le V-drums TD-10.

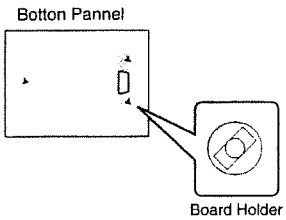
Ordre des manipulations:

1. Éteindre le MC-80 et le débrancher avant de commencer l'installation du VE-GS Pro.
2. Enlever les 4 vis à la base du MC-80 et ouvrir la plaque.

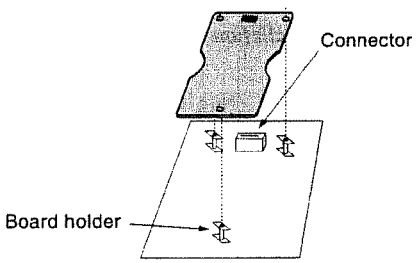


* *N'enlever que les vis indiquées par les flèches.*

3. Positionner les supports pour la carte tel qu'indiqué sur le schéma.



4. Enfoncer le connecteur de la carte d'extension jusqu'au fond du créneau du MC-80. Faire dépasser les extrémités des 3 supports de la carte d'extension.



5. Fermer la plaque et la fixer à l'aide des vis enlevées à l'étape 2.

* *Ne pas toucher aux circuits et au connecteur.*

* *Ne pas enfoncer de force la carte d'extension sur les supports. En cas de difficulté, détacher la carte et recommencer l'opération.*

* *Ne pas laisser traîner la carte VE-GS Pro. Vous pourriez vous blesser en marchant dessus.*

Listening to the VE-GS Pro demo songs

1. After pressing the [TOOLS], press [F3 (MIDI)].

2. Press [F6 (EXPBOARD)].

3. Press [F6 (DEMOPLAY)] to begin performance of the demo song.

4. Press [F5 (DEMOSTOP)] to stop the performance.

5. Press [EXIT] several times to return to the "SONG PLAY" screen.

Each press of the [EXIT] returns the previous screens to the display one by one.

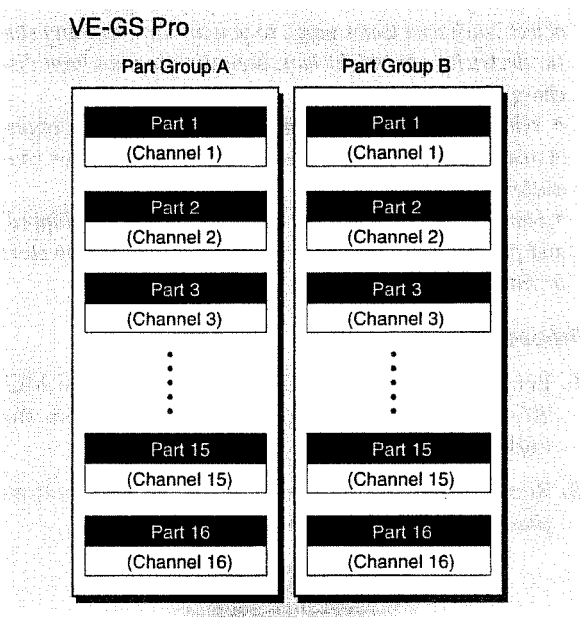
* *All rights reserved. Unauthorized use of this material for purposes other than private, personal enjoyment is a violation of applicable laws.*

* *No data for the music that is played will be output from MIDI OUT.*

Basic Setup of the VE-GS Pro

VE-GS Pro is a 32-part sound generator module.
Part Groups A and B each contain 16 parts, and you can select which part group to use for each track in the song.
Since you can select the tone for each part, this means that with the VE-GS Pro you can use up to 32 different tones simultaneously.

* *Sound generators such as VE-GS Pro that can play multiple tones simultaneously are referred to as multitimbre sound generators.*



Basic Settings for Use of the VE-GS Pro

You can use the VE-GS Pro as a sound generator with up to 32 parts (32 channels). Furthermore, you can also use an external 16-channel sound generator along with 16 channels of the VE-GS Pro simultaneously.
For more concrete instructions on making settings, please refer to "Chapter 2 Setting the MIDI Connectors and MIDI Channels" on p. 23.

Setting the VE-GS Pro to the initial state

Here's how to reset the settings of the VE-GS Pro to the initial GS or GM settings.

Procedure

1. Press the buttons in the order of [SEQUENCER]-[TOOLS]-[F3(MIDI)]-[F6(EXPBOARD)].

The EXPANSION BOARD screen will be selected.

2. To initialize to the GS settings, press [F3(GS RESET)]. To initialize to the GM settings, press [F2(GM SYSON)].

The VE-GS Pro will be set to the initial settings you specified.

3. Press [SEQUENCER] to return to the "SONG PLAY" or "QUICK PLAY" screen.

System/Mode Settings

Input data into the song so that when the song is played back, settings for the entire VE-GS Pro will be made. The following setting can be input in any track 1–16. Inserting this single data item will reset the settings of the entire unit.

* *For the procedure of creating data, refer to "Creating musical data (Create)" (p. 64).*

* *These settings are also used by GS sound modules other than the VE-GS Pro.*

Returning the Sound Module to Initial Conditions

The various settings of the sound module will be returned to their default values. This message is called GS Reset. When you create a song, insert a GS Reset at the beginning of the song.
Doing this prevents the settings from the song that was last played back from affecting the current song, and instead lets you start with the basic settings for the sound module.

Procedure

This sends the following System Exclusive Message.
SysEx F0 41 10 42 12 40 00 7F 00 41 F7

Settings for Each Part

Input data into the song so that settings will be made for each part of the VE-GS Pro when the song is played back.

* *For the procedure of creating data, refer to "Creating musical data (Create)" (p.xx).*

* *These settings can also used by GS sound modules other than the VE-GS Pro.*

Adjusting the Pitch

The pitch setting for GS sound modules can be finely adjusted in increments of one cent.

Procedure

This sends the following Control Change Message.

Message	Value
Control Chg	#101 = 0
Control Chg	#100 = 1
Control Chg	#38 = y
Control Chg	#6 = x

This setting combines the numerical values for x and y. The frequency settings and the combination of x and y are shown below.

Frequency Settings	y	x
445.0	76	67
444.0	74	3
443.0	71	68
442.0	69	3
441.0	66	66
440.0	64	0
439.0	61	61
438.0	58	122

For information on even more detailed settings, refer to "VE-GS Pro Implementation" (for a copy, please contact Roland Service).

- Initial Value: 440.0 (y = 64. x = 00)
- Setting Range: -100-+100

Setting Transposition

GS sound module pitch is also adjustable in semitone increments.

Procedure

This sends the following Control Change Message.

Message Sent	Settings Value
Control Chg	#101 = 00
Control Chg	#100 = 02
Control Chg	#6 = x

* *The sound is transposed when the messages are sent in this sequence.*

* *x specifies the degree of transposition. When this value is set to 64, no transposition occurs.*

- Initial value: 64 (No transposition)
- Setting Range: 40–64–88 (-2 octaves–0 - +2 octaves)

Selecting the Tone

The VE-GS Pro contains the sounds of the SC-55mkII, SC-88, and SC-88 Pro. Since the VE-GS Pro is capable of producing 1117 different tones, settings just with Program Change 1–128 are insufficient. Thus, sending Bank Select Messages along with these messages allows you to call up any instru-

ment.

Example

Calling up St.Soft EP (Program Change Number 5, Bank Select Number 8)

Message Sent

This sends the following messages is the sequence shown.

Message Sent Value Setting

Control Chg #0 = 8 (The Bank Select number is input).

Control Chg #32 = 3 (3 is sent when SC-88 Pro tones are used).

Program Chg #6 = 5 (The Program Change number is input).

* *The Control Chg #0 and Program Change value set are those listed under the Program Change numbers and Bank Select numbers in the VE-GS Pro Owner's Manual.*
* *The Control Chg #32 value is set to allow selection of SC-55 and SC-88 tones. The tones can be selected by sending 1 for SC-55 tones , 2 for SC-88 tones, and 3 for SC-88 Pro tones.*
* *If a value to which no tone is assigned is sent, then no sound is played. Send again after setting the proper value.*

Adjusting the Volume

This adjusts the volume of each part. The initial setting for each part is 100.

Message Sent

Control Chg #7 = x

Value Settings

x = 0 (Minimum) - 127 (Maximum)

Adjusting the Placement of the Sound

This adjusts the pan setting for each part's sound. The initial setting for each part is 64 (Center).

Message Sent

Control Chg #10 = x

Value Settings

x = 0 (Left) - 64 (Center) - 127 (Right)

Adjusting Reverb Depth

This adjusts the reverb for each part's sound. The initial setting for each part is 40.

Message Sent

Control Chg #91 = x

Value Settings

x = 0 (Minimum) - 127 (Maximum)

Adjusting Chorus Depth

This adjusts each part's chorus effect (an effect that adds breadth and fullness to the sound). The initial setting for each part is 0.

Message Sent

Control Chg #93 = x

Value Settings

x = 0 (Minimum) - 127 (Maximum)

Adjusting Delay Depth

This adjusts the delay effect (an effect like an echo in which the sound repeats) applied to each part's sound. The initial setting for each part is 0.

Message Sent

Control Chg #94 = x

Value Settings

x = 0 (Minimum) - 127 (Maximum)

Transposing Each Part

Message Sent

F0 41 10 42 12 40 1x 16 yy cs F7

Value Settings

* *x specifies the transposed part.*

x = 1–9 (Parts 1–9), 0 (Part 10), A-F (Parts 11–16)

* *yy specifies the degree of transposition.*

yy = 28–40–58 (-24–0-+24)

* *The MC-80 runs the (cs) checksum. When a suitable numerical value such as "00" is input, pressing [F5 (ENTER)] automatically produces the correct value.*

Muting Parts

Message Sent

The following System Exclusive Message is sent.

F0 41 10 42 12 40 1x 08 0y cs F7

Value Settings

• *x specifies the muted part.*

x = 1–9 (Parts 1–9), 0 (Part 10), A–F (Parts 11–16)

• *y specifies whether the part is muted or not.*

y = 0, 1 (Mute on, Mute off)

* *The MC-80 runs the (cs) checksum. When a suitable numerical value such as "00" is input, pressing [F5 (ENTER)] automatically produces the correct value.*

Editing Tones

You can edit the tone for each of the VE-GS Pro's parts.
These messages are effective on other GS sound modules as well as the VE-GS Pro.

* *However on some GS sound modules, there are limitations on the range of settings. Chap.*

Cutoff Frequency (TVF CutOff)

This adjusts how brilliant, or how mellow the sound is.

Message Sent
Control Chg #99 = 1
Control Chg #98 = 32
Program Chg #6 = x
Value Settings
x = 0 (Minimum) - 127 (Maximum)

Resonance (TVF Reso.)

This adds the particular undulating sound characteristic of synthesizers.

Message Sent
Control Chg #99 = 1
Control Chg #98 = 33
Program Chg #6 = x
Value Settings
x = 0 (Minimum) - 127 (Maximum)

Attack Time (TVF&TVA Attack)

This adjusts the attack, or the degree of sharpness with which sounds begin.

Message Sent
Control Chg #99 = 1
Control Chg #98 = 99
Program Chg #6 = x
Value Settings
x = 0 (Minimum) - 127 (Maximum)

Decay Time (TVF&TVA Decay)

This adjusts the decay, or the time for the sound to fall from the beginning of the sound to the sustain level.

Message Sent
Control Chg #99 = 1
Control Chg #98 = 100
Program Chg #6 = x
Value Settings
x = 0 (Minimum) - 127 (Maximum)

Release Time (TVF&TVA Release)

This adjusts the release, or the time between the Note Off (when the key is release) and when the sound stops playing.

Message Sent
Control Chg #99 = 1
Control Chg #98 = 102
Program Chg #6 = x
Value Settings
x = 0 (Minimum) - 127 (Maximum)

Vibrato Rate (Vib Rate)

This determines the cycle rate for the vibrato effect.

Message Sent
Control Chg #99 = 1
Control Chg #98 = 8
Program Chg #6 = x
Value Settings
x = 0 (Minimum) - 127 (Maximum)

Vibrato Depth (Vib Depth)

This determines the strength of the vibrato effect.

Message Sent
Control Chg #99 = 1
Control Chg #98 = 9
Program Chg #6 = x
Value Settings
x = 0 (Minimum)–127 (Maximum)

Vibrato Delay (Vib Delay)

This determines the time elapsed before the vibrato effect is applied.

Message Sent
Control Chg #99 = 1

Control Chg #98 = 10
Program Chg #6 = x
Value Settings
x = 0 (Minimum)–127 (Maximum)

Using Insertion Effects

You can apply the VE-GS Pro's Insertion Effects to sounds. These messages are recieved for the SC-88 pro series, and VE-GS Pro.

Turning On the Insertion Effects for Each Part

The setting determining whether or not Insertion Effects are used can be set for each part individually.
Message Sent
F0 41 10 42 12 40 4x 22 0y cs F7
Value Settings
• Setting y to 1 turns on the Insertion Effects. To turn off the effect to the part again, set y to 0.

• x specifies the part for which you wish to specify that the insertion effect be used or not.
x = 1–9 (Parts 1–9), 0 (Part 10), A–F (Parts 11–16)

Selecting the Insertion Effect Type

The VE-GS Pro features 64 different Insertion Effects from which to choose For more information on the Insertion Effect types, please refer to your VE-GS Pro Owner's Manual).
Message Sent
F0 41 10 42 12 40 03 00 xx yy cs F7
Value Settings

	xx	yy
Thru	00	00
Stereo-EQ	01	00
Spectrum	01	01
Enhancer	01	02
Humanizer	01	03
Overdrive	01	10
Distortion	01	11
Phaser	01	20
Auto Wah	01	21
Rotary	01	22
Stereo Flanger	01	23
Step Flanger	01	24
Tremolo	01	25
Auto Pan	01	26
Compressor	01	30
Limiter	01	31
Hexa Chorus	01	40
Tremolo Chorus	01	41
Stereo Chorus	01	42
Space D	01	43
3D Chorus	01	44
Stereo Delay	01	50
Mod Delay	01	51
3 Tap Delay	01	52
4 Tap Delay	01	53
Time Control Delay	01	54
Reverb	01	55
Gate Reverb	01	56
3D Delay	01	57
2 Pitch Shifter	01	60
Feedback Pitch Shifter	01	61
3D Auto	01	70
3D Manual	01	71
Lo-Fi 1	01	72
Lo-Fi 2	01	73
Overdrive → Chorus	02	00
Overdrive → Flanger	02	01
Overdrive → Delay	02	02
Distortion → Chorus	02	03
Distortion → Flanger	02	04
Distortion → Delay	02	05
Enhancer → Chorus	02	06
Enhancer → Flanger	02	07
Enhancer → Delay	02	08
Chorus → Delay	02	09
Flanger → Delay	02	0A
Chorus → Flanger	02	0B
Rotary Multi	03	00
Guitar Multi 1	04	00
Guitar Multi 2	04	01
Guitar Multi 3	04	02
Clean Guitar Multi 1	04	03
Clean Guitar Multi 2	04	04
Bass Multi	04	05
Rhodes Multi	04	06

Keyboard Multi	05	00
Chorus/Delay	11	00
Flanger/Delay	11	01
Chorus/Flanger	11	02
OD/OD2	11	03
OD/Rotary	11	04
OD/Phaser	11	05
OD/AutoWah	11	06
PH/Rotary	11	07
PH/Auto Wah	11	08

Saving VE-GS Pro Settings

You can record each VE-GS Pro setting to the MC-80 song tracks and then save this to the disk. This is convenient when saving these as settings in songs you have created, as well as initial sound module settings before you start composing.
VE-GS Pro settings can be sent to external MIDI devices from the MC-80's MIDI THRU connector.
While the basic function of the MIDI THRU connector is to send out, without modification, all data that's been input to the MIDI IN connector, it can be used as the connector (VE-GS Pro's MIDI OUT connector) for sending the VE-GS Pro's settings data.
In this case, the VE-GS Pro's settings data can be sent from the MIDI THRU connector when Dump Request data is received from an external device or the MC-80's sequencer.

Procedure

(MIDI Connector Settings)

1. Press [SEQUENCER].
2. Press the [TOOLS] followed by [F3 (MIDI)].
3. Move the cursor to "Thru Select."
4. Rotate the [VALUE] dial to select "EXP OUT."

* *If "SOUND MODULE (32 Part)" is selected in MIDI Patch Mode (p. 118), the setting described above is not necessary (this is already set to "EXP OUT").*

(Procedure for Saving the Settings)

1. Use a MIDI cable to connect the MC-80's MIDI THRU and MIDI IN connectors.
2. In the "SONG PLAY" screen, press [F4 (MICRO)].
3. Press [F1 (CREATE)], and then select "SysEx."
4. Edit the System Exclusive message as shown below.

F0 41 10 42 11 0C 00 00 00 00 00 00 74 F7

This completes preparation of the request for the transmission of data, which you can use for the VE-GS Pro.

5. Place a track in record standby mode. Use a track other than the one used for the System Exclusive message created in Step 3.
6. Begin recording.

When recording starts, the System Exclusive message created in Step 4 is sent to the VE-GS Pro. Upon reception of the message, the VE-GS Pro sends back the data, which is recorded on the sequencer's phrase track.

7. Use Track Edit (p. 59) to delete the System Exclusive message created in Step 4.
8. If needed, save the song to a disk (p. 91).

Using VE-GS Pro As an External Sequencer/Sound Generator

32-Part Sound Module Mode

Instead of using VE-GS Pro as the MC-80's sound generator, you can use it as a stand-alone sound generator module.
MIDI IN 1 and 2 each may be used as 16-part sound generators.

Procedure

1. Press the [TOOLS] button followed by [F3 (MIDI)].
2. Move the cursor underneath "MIDI Patch Mode."
3. Set to "SOUND MODULE (32Part)."
4. Press [ENTER].
5. Press [EXIT] to return to Play mode.

After the settings are made, you can input the sixteen parts in Part Group A via the MIDI IN 1 connector and the sixteen parts in Part Group B via the MIDI IN 2 connector.

* *These settings disconnect the MC-80's sequencer and VE-GS Pro. To again use the MC-80's sequencer in combination with VE-GS Pro, set "MIDI Patch Mode" to "SEQUENCER" or "SOUND MODULE (16Part)."*

16-Part Sound Module Mode

In 16-Part Sound Generator Module mode, sixteen parts are used by the MC-80 sequencer, and the other sixteen parts can be assigned to another independent sequencer, making this a convenient choice for live

performances.

Procedure

1. Press the [TOOLS] button followed by [F3 (MIDI)].
2. Move the cursor underneath "MIDI Patch Mode."
3. Set to "SOUND MODULE (16Part)."
4. Press [ENTER].
5. Move the cursor next to "SEQ MIDI IN."
6. Select "IN 1."
7. Move the cursor next to "ToV-EXP."
8. Select "A Only."
9. Press [EXIT] to return to Play mode.

After the input from the MIDI IN 1 connector is sent to/from the sequencer, it is then sent to the sixteen parts of VE-GS Pro's Part Group A. Additionally, the MIDI IN 2 connector can be used for sending the sixteen parts of Part Group B.

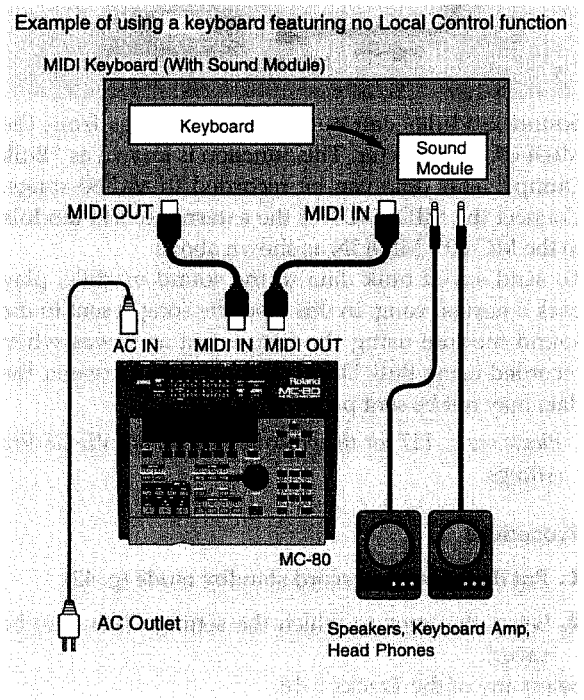
Chapter 12 Connecting and Synchronizing with External Devices

Using the MC-80 with a MIDI Keyboard and External Sound Module

For an explanation of making the basic connections, please see p. 2–3 in the Quick Start manual. Described here are connections for specific applications.

* *To prevent malfunction and/or damage to speakers or other devices, always turn down the volume, and turn off the power on all devices before making any connections.*

When using a MIDI Keyboard Featuring No Local Control Function



In this case, connect the devices as shown above. Although this is the same way of connecting devices as described on p. 3 of Quick Start, the setting and recording procedures are different.

The MC-80 is set such that data received through the MIDI IN connector is in turn sent through the MIDI OUT connector (with factory settings).

This is referred to as "Soft Thru." When using a MIDI keyboard that does not feature the Local Control function, this Soft Thru must be turned off.

Setting Method

1. Press the [TOOLS], [F3 (MIDI)], and [F2 (SETUP)] buttons, in that order.

The MIDI "SETUP" window opens.

2. Move the cursor to Soft Thru.

3. Press [DEC/-].

This selects "OFF."

4. Press [EXIT] to return to the "SONG PLAY" screen.

Recording Process

1. Use the MIDI keyboard settings to set the sound module to play on the desired channel.

2. Press [REC].

The REC STANDBY window opens.

3. Specify the recording destination by pressing the track button with the same number as the channel that was just selected.

4. Press [PLAY].

Recording then begins.

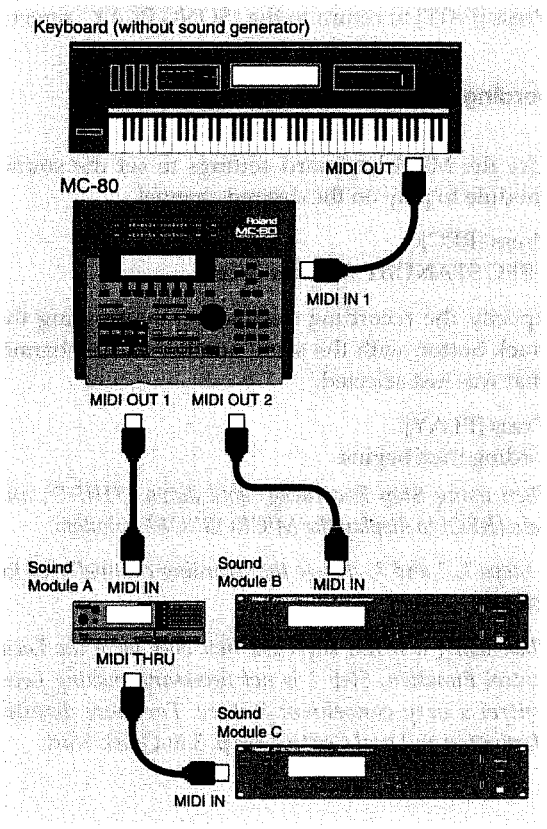
* *When using Step Recording, hold down [SHIFT], and press [REC] to display the MICROSCOPE window.*

* *In Steps 1, 2 and 3, change the recording channel used for each pass.*

* *When using a MIDI keyboard that does have the Local Control Function, Step 1 is not necessary, making Local Control a very convenient feature. For more detailed information on Local Control, see p. 3 in Quick Start.*

When Connecting Two External Sound modules

Connecting with MIDI cables when two or more external sound generators are used



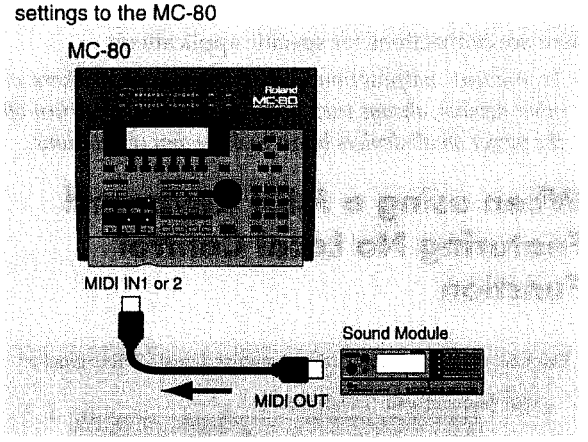
When using two sound modules only (and not the internal sound module), connect both MIDI OUT1 and MIDI OUT2, each to a separate sound module. This allows you to use a total of 32 channels through the sound modules.

When Connecting Three or More Sound Modules

To connect three sound modules, connect the third sound module by using the MIDI THRU connector. This arrangement uses sixteen channels, with two sound modules connected to MIDI OUT1. Following the example in the figure above, Channel 1 plays through sound module A, Channel 2 through sound module C, Channel 3 through both, and so on, so set each sound module to either receive or not receive the channel.

Recording and Saving External Sound Module Settings on the MC-80

Connecting with MIDI cables when saving sound generator settings to the MC-80



Sound modules can output their settings from the MIDI OUT connector. This function is known as "Bulk Dump." This data can be recorded to MC-80 songs. Connect the MIDI OUT of the external sound module to the MC-80's MIDI IN as shown above.

To send saved bulk data to the sound module, play back a normal song. In this case, the song is sent to the sound module using the tempo just as it was when recorded using Bulk Dump. If the tempo increases, the data may not be sent properly.

* *Please see p. 117 for the procedure for saving VE-GS Pro settings.*

Procedure

1. Put the MC-80 in record standby mode (p. 42).
2. Select the track to which the settings data is to be saved.

Select any of the Tracks 1–16.

3. Press [PLAY].

Recording begins.

4. After "Measure" reads "0001," send the bulk data from the sound generator to the MC-80.

* *The method used to send bulk data varies with the sound generator. Please refer to the owner's manual for the particular model you are using.*

5. When the transfer of bulk data from the sound generator is completed, press [STOP] on the MC-80.
6. Save to the disk as song data as needed.

* *To send saved data to the sound generator, connect the MC-80's MIDI OUT and the sound generator's MIDI IN with a MIDI cable, then play back the song saved as*

bulk data on the MC-80 through the final measure.

* *Do not edit the data portions or alter any tempos in songs saved as bulk data. Changing the data after it is recorded may result in the sound generator being unable to receive the bulk data properly.*

Synchronizing the MC-80 and Another Sequencer

Synchronization signals called MIDI Clock are used to synchronize the two sequencers.

Synchronizing Another Sequencer to the MC-80's Playback

In this case, the MC-80, which is sending the synchronization signals, is referred to as the "master," and the sequencer receiving the signals is called the "slave."

Settings Procedure

Set the sequencer receiving the synchronization signals as the slave. Refer to the owner's manual for the sequencer for instructions on making these settings.
Once the MC-80 is in normal playback mode, no other settings are especially necessary.
Make the following settings so that the MC-80 will be the master.

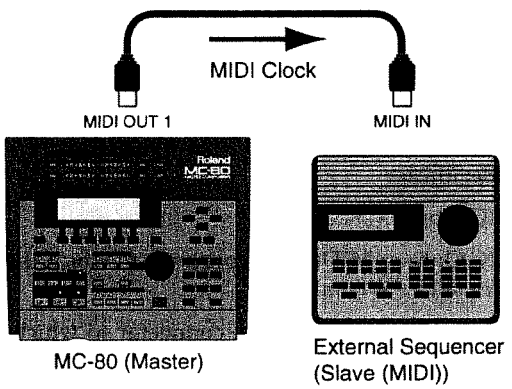
1. Press buttons in the order of [TOOLS]-[F3(MIDI)]-[F3(SYNC)].

The "SYNC" screen will appear.

2. Move the cursor to the following parameters, and make the appropriate settings.

Mode: Master
MIDI Sync out: The MIDI OUT connector to which the other sequencer is connected.

Connecting Procedure



Procedure

Use the MC-80 to play back and stop the song. However/Additionally, if you want to record to the slave, put the slave in record standby mode while it is stopped, then press the MC-80's [PLAY] button. Set the slave sequencer in standby mode of its slave mode.

Synchronizing the MC-80 to the Playback of Another Sequencer

Now the sequencer, which is sending the synchronization signals, is the "master," and the MC-80, receiving the signals, becomes the "slave." In this case, it is necessary to set the MC-80 so that it functions as the slave device.

Settings Procedure

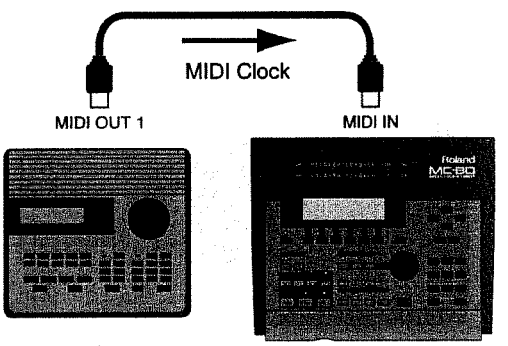
Set the sequencer sending the synchronization signals as the master. Refer to the owner's manual for the sequencer for instructions on making these settings.
To set the MC-80 as slave, follow the steps below to make the settings.

1. Press [TOOLS], then [F3 (MIDI)], and then the [F3 (SYNC)] button.

The SYNC window opens.

2. Move the cursor to Mode, and set this to Slave(MIDI).

Connecting Procedure



Procedure

Use the Master to play back and stop the song. However/Additionally, if you want to record to the MC-80, put the MC-80 in record standby mode while it is stopped, then press the Master [PLAY] button.

Synchronizing the MC-80 and Roland's VS Series Devices

When synchronizing hard disk recorders in Roland's VS Series workstations with the MC-80, care must be exercised in coordinating tempo changes. The setup of the hard disk recorder prevents it from responding to tempo changes from the MIDI clock. Thus, when synchronizing with the MC-80, preparation and the synchronization methods differ according to how the

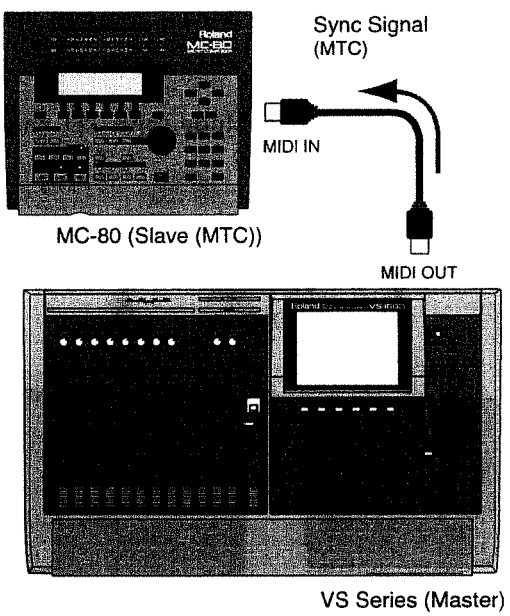
tempo change data is set.

* *For more on operation of your hard disk recorder, please refer to the Owner's Manual for the device you are using.*

Synchronizing with Songs That Feature Fixed Tempos

If the tempo is fixed, use MIDI Time Code (MTC). Performances that hat have been recorded in time with measures and beats in the VS display can be synchronized with the MC-80.
To record with the correct rhythm on VS Series, we recommend using the metronome function.
Connect the MC-80 to the VS Series as shown in the diagram below.

(Example 1) When the VS series is the master, and the MC-80 is the slave.



Setting the VS Device

Set the VS Series device as the "master." For more detailed information and instructions, refer to the owner's manual for your VS Series device.

Setting the MC-80

1. Press [TOOLS], then [F3 (MIDI)], and then the [F3 (SYNC)] button.
The SYNC window opens.

2. Move the cursor to the following and set as described.

- Mode: Slave (MTC) *1
- Frame Mode: (Same settings value as the VS Series device)
- MMC Mode: OFF *2

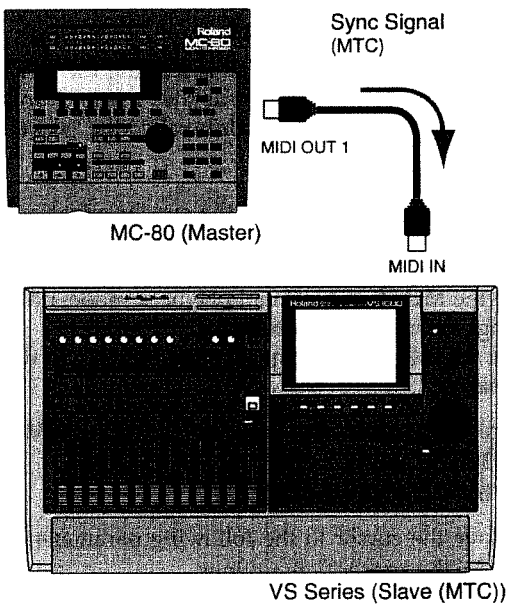
*1 *When Mode is set to Slave(MTC), the tempo at that time will be the setting when Tempo Reset (p. 30) is performed.*

* 2: *When Mode is set to "Slave(MTC)," please set MMC Mode to OFF. If this is ON, operation may be unstable.*

Procedure

First press [PLAY] on the MC-80 so that it will be ready to begin synchronized playback. Playback, stopping, and other such functions are performed on the VS, with the MC-80 synchronized to these operations. If you use Song Play (p. 27), synchronized playback will be more stable. Use the procedure described on p.xx to load the song into the MC-80, and then begin synchronized playback.

(Example 2) When the VS series is the slave (MTC), and the MC-80 is the master.



Setting the VS Device

Set the VS Series device as the "slave." For more detailed information and instructions, refer to the owner's manual for your VS Series device.

Setting the MC-80

1. Press [TOOLS], then [F3 (MIDI)], and then the [F3 (SYNC)] button.
The SYNC window opens.

2. Move the cursor to the following and set as described.

- Mode: Master
- MMC Mode: Master
- MMC Output: MIDI OUT connector to which the VS Series device is connected.
- MTC Sync out: MIDI OUT connector to which the VS Series device is connected.
- Frame Mode: (Same settings value as the VS Series device)

Procedure

Playback, stopping, and other such functions are performed on the MC-80, with the VS device synchronized to these operations.

Synchronizing Performances That Include Stepped Tempo Changes

In the MC-80's "MICROSCOPE" screen (p. 59), check the location of the tempo data, , and input the data individually into the Tempo Map of the VS series. You can also synchronize songs that feature at several places tempo data changing the tempo in discrete steps, such as a song in which the first sixteen measures are at a tempo of 130, and the tempo for the next thirty-two measures is set to 120. The following describes a setup in which the tempo data is first recorded to the VS, and the recording of the performance is matched to that.
The other settings are the same as those in "Synchronizing with Songs That Feature Fixed Tempos." Here as well, the VS device is set as the slave and the MC-80 as the master.

Synchronizing VS Series Devices to MC-80 Songs That Feature Continuous Tempo Changes

In cases where, as described in "Recording Tempo Changes" in Chapter 4, there are many points at which tempo change data is input, use the following method to synchronize the MC-80 and the VS device. In this setup, first record the MC-80's tempo change information to the VS device's sync track. Then, the VS device is set as the master and the MC-80 functions as the slave.

* *In this case, it will not be possible to synchronize if the MC-80 is the master and the VS series is the slave.*

Recording the MC-80's Tempo Change Information to the VS Sync Track

1. Connect the MC-80 to the VS Series as shown in the diagram below.
2. Press buttons in the order of [TOOLS]-[F3(MIDI)]-[F3(SYNC)].

The "SYNC" screen will appear.

3. Move the cursor to the following parameters, and make the appropriate settings.

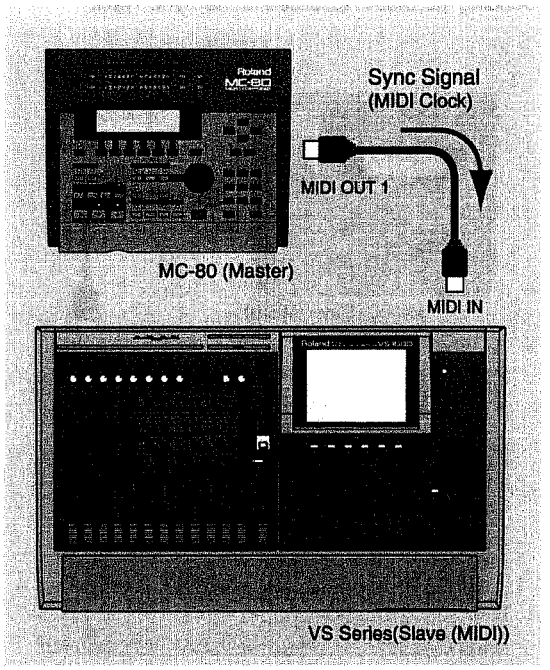
Mode: Master
MIDI Sync out: The MIDI OUT connector to which the VS series is connected.

4. On the VS device, put the sync track in record standby mode.
5. Begin playback on the MC-80.

Recording to the VS device's Synch Tracks begins simultaneously.

6. When the MC-80 has finished playing back the song, the VS automatically stops recording as well.

Recording to the Sync Track



Setting the VS Device

Set the VS Series device as the master. In addition, it is necessary to make the settings so that the Synch Track data is output from the VS Series device MIDI OUT connector. For more detailed information and instructions, refer to the owner's manual for your VS Series device.

Setting the MC-80

1. Press [TOOLS], then [F3 (MIDI)], and then the [F3 (SYNC)] button.

The SYNC window opens.

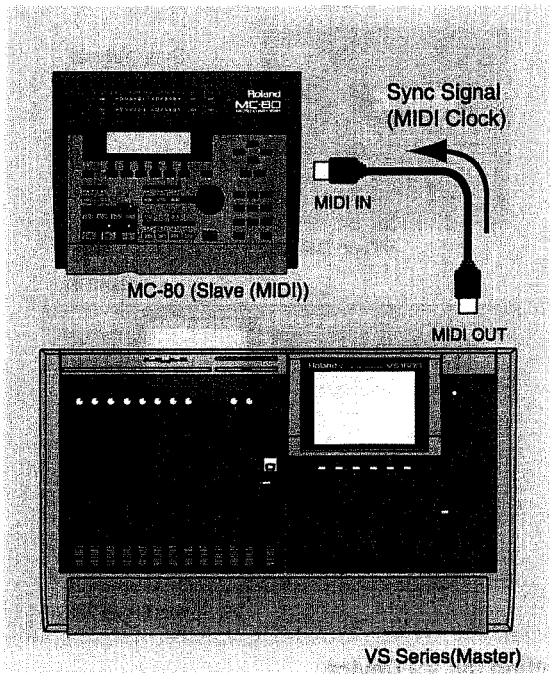
2. Move the cursor to the following and set as described.

- Mode: Slave (MIDI)

Procedure

Playback, stopping, and other such functions are performed on the VS device, with the MC-80 synchronized to these operations.

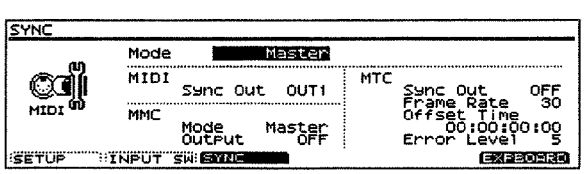
Sending the Clock Recorded to the Sync Track



For More About the Synchronization Settings

Please read the following when, in addition to the descriptions presented thus far, you want to understand more about synchronization or learn more of the specialized terminology.

For concrete examples of the connections and settings made when synchronizing the MC-80 with two MIDI sequencers or with hard disk recorders, please see "Synchronizing the MC-80 and Another Sequencer" and "Synchronizing the MC-80 and Roland's VS Series Devices."



Operation

1. Press [TOOLS], then [F3 (MIDI)], and then the [F3 (SYNC)] button.

The SYNC window opens.

2. Set each parameter as described below.

What are MIDI Clock and MTC?

MIDI Clock and MTC are both signals used to synchronize timing. Each is used according to the purpose at hand.

MIDI Clock transmits and synchronizes operations to a sequencer's performance tempo, whereas MTC synchronizes operations between devices based on an absolute time. Since VS Series workstations are hard disk recorders, they cannot send MIDI Clock. Normally, using a MTC is convenient for synchronization of the hard disk recorder and the MC-80. However, VS Series devices also feature specialized tracks for recording MIDI Clock, so with the MC-80's MIDI Clock recorded in this manner, we have another synchronizing technique in which the VS device appears to be sending MIDI Clock (although it is actually playing back tracks to which MIDI Clock has been recorded). However, since the tempo must be recorded to the VS sync track beforehand, MTC is only convenient in synchronizing with songs that do not contain great amounts of tempo data.

Selecting MIDI Clock and MTC (Mode)

You can use this setting to determine whether or not synchronization uses MTC or MIDI Clock.

Settings

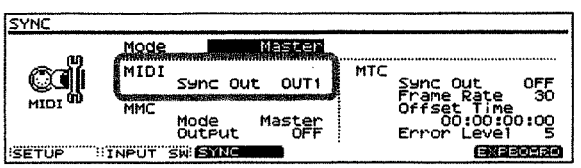
Master: Use this setting when using the MC-80 clock to synchronize external devices.

Slave (MTC): Use this setting when synchronizing with MTC.

Slave (MIDI): Use this setting when using MIDI Clock to synchronize.

Remote: Use this setting when you wish an external MIDI device to have remote start/stop control. The tempo will be in accord with what has been set on the MC-80.

Necessary Settings for Using MIDI Clock



MIDI Sync Output

This selects the MIDI OUT connector used to send synchronization signals when the MC-80 is functioning as the master device.

Settings

OFF: Synchronization signals are not sent.

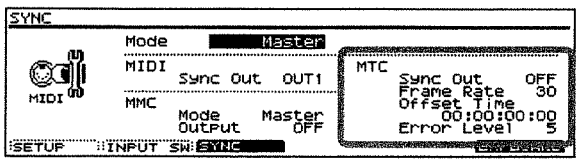
OUT 1: Synchronization signals are sent from the MIDI OUT 1 connector.

OUT 2: Synchronization signals are sent from the MIDI OUT 2 connector.

1&2: Both MIDI OUT 1 and MIDI OUT 2 will transmit MIDI Clock.

Necessary Settings for Using MTC

Use the following parameter settings.



Sync Out

This selects the MIDI OUT connector used to send synchronization signals when the MC-80 is functioning as the master device.

Settings

OFF: Synchronization signals are not sent.
MIDI OUT 1: Synchronization signals are sent from the MIDI OUT 1 connector.
MIDI OUT 2: Synchronization signals are sent from the MIDI OUT 2 connector.

Frame Rate

Select the frame rate using one of the settings below. Make sure that the same mode is set in both master and slave devices.
When synchronizing with hard disk recorders such as those in the VS Series, any settings selected are acceptable as long as the frame rate settings for both devices are in agreement. However, when synchronizing operation with video devices such as video decks, the video device's frame rate is fixed, so the MC-80's setting must correspond to that frame rate.

Settings

24: 24 frames per second
25: 25 frames per second
29N: 29 frames per second
29D: 29 frames per second
30: 30 frames per second

* *For a more detailed description of frame rates, please see p. 127.*

Offset Time

This coordinates the playback timing of the MC-80 and the external device. For example, to have the MC-80 begin playback with "00h00m00s00f" at the point where the VS Series device begins playback at "00h50m00s00f," set the MC-80's offset to "00h50m00s00f." In these settings, "h" refers to hours, "m" to minutes, "s" to seconds, and "f" to frames.

Settings

00h00m00s00f (no offset)-23h59m59s29f

Error Level

This determines how often the reception status is checked when MTC is being received from an external device. Stop synchronization if a problem becomes apparent with the check.

Settings

1–10 (Interval is lengthened as the number increases)

* *In strict terms, the lower the numerical value set, the more accurate the check is. However, playback may be stopped overly frequently if too rigorous a check is made, and this soon becomes inconvenient. By raising the Error Level setting, then even if problems with the reception of MTC do occur, synchronization can then continue as long as such problems remain at a level that does not cause undue problems.*

Data Related to Synchronization Settings

What is MMC?

MMC (MIDI Machine Control) is a reference standard for the control of tape recorders, VTRs, digital recording systems and the like using MIDI messages. 37 different commands, such as Stop Play, are featured.

MMC Mode

Specify whether the MC-80 will be the MMC master or the slave.

Available Settings

Master: Use this setting when the MC-80 will be the master.
Slave: Use this setting when the MC-80 will be the slave.

MMC Output

If the MC-80 will be the MMC master, select the connector that will transmit MMC.

Available Settings

OFF: MMC will not be output.
OUT1: Output from the MIDI OUT 1 connector.
OUT2: Output from the MIDI OUT 2 connector.

Types of MTC

The types of MTC that can be selected by the MC-80 are shown below. Select the same frame rate as that set for the external device.
When not using a video device, then any frame rate may be selected as long as the rates are the same on both devices being synchronized.
30: 30 frames per second non-drop format. This is used by audio devices such as analog tape recorders, and for NTSC format black and white video (used in Japan and the U.S.).
29N: 29.97 frames per second non-drop format. This is used for NTSC format color video (used in Japan and the U.S.).

29D: 29.97 frames per second drop format. This is used for NTSC format broadcast color video (used in Japan and the U.S.).
25: 25 frame per second frame rate. This is used for SECAM or PAL format video, audio equipment, and film (used in Europe and elsewhere).
24: 24 frame per second frame rate. This is used for video, audio devices, and film in the US.

Non-Drop Format and Drop Format

There are two types of format used by NTSC video cassette recorders, non-drop and drop. Non-drop format features continuous time code, whereas in drop format, which is used for NTSC color video format, the first two frames of every minute are dropped, except for those at ten-minute intervals.
In most video and audio production, since formats with continuous frames are easier to deal with, non-drop is generally used. In contrast, in situations such as in broadcast, where the time code must match actual clock time, drop is used.

What is the Tempo Map?

"Synchronizing Performances That Include Stepped Tempo Changes" (p. 124) provided an example of using the VS device's tempo map in conjunction with MTC to handle tempo changes during synchronization.

Using the Sync Track

When synchronizing using the sync track, the first step in preparation is recording to the VS device's sync track the unaltered MIDI Clock sent by the MC-80 during playback.
Then when actually carrying out the synchronization, use the VS device to play back the song, with the MC-80 following the operation of the VS device. This makes synchronization with VS devices possible, even with MC-80 performances containing complex tempo data.

Appendices

Troubleshooting

No Sound from External Sound Module

- Are the MC-80 and the external sound module properly connected at the MIDI connector? (Quick Start p. 2)
- Are external audio devices you may be using connected and functioning properly?
- If Control Change Messages Number 7 (Volume) or Number 11 (Expression) are used in the song, are the values set low? Confirm levels in the Microscope window (p. 59).
- Is the MIDI OUT (1 or 2) connector selected the proper one? (p. 23)
- Is the MIDI IN (1 or 2) connector selected the proper one? (p. 23)
- Are any tracks set not to play in Track Mute (p. 34), Minus One (p. 33), or Solo (p. 34) settings?
- Has a fade-out caused the volume to be lowered completely? (p. 32)

Selected Tone from External Sound Device Does Not Play

- Have the MIDI send settings been made properly? (p. 25)
- When performing along with a song, are there any Program Change messages on the song's tracks? (p. 59)
- Is the part selected by the external sound module the wrong one?

Sound is Not Played Back After Recording

Did you record to muted tracks? Check the Track Mute status (p. 33), and cancel the mute if necessary.

Tempo Differs from That of Last Playback

- If a song is played back after the tempo is changed, then the new tempo is not saved unless the song is saved to the disk. When saving songs (p. 91), carefully check the current playback tempo.

Markers Set in Song Have Disappeared

- Has the song been saved on a disk in a format other than MC-80 format (SMF 0 or 1)? (p. 91)

  Markers are saved along with the song only when the song is saved in MC-80 format.
- Are you in Quick Play? To use Markers, the song must be loaded into the MC-80. (p. 27)

Original Patterns Aren't Saved to Disk

- Has the song been saved on a disk in a format other than MC-80 format (SMF 0 or 1)? (p. 91) Patterns are saved along with the song only when the song is saved in MC-80 format. (p. 27)
- Are you in Quick Play? Just as with songs, in order to edit Patterns, the Pattern must be loaded into the MC-80.

Only Some Keys Play a Different Sound

- Is the Phrase Sequence function turned on? (p. 51)

The VE-GS Pro Does Not Play

- Is the VE-GS Pro properly installed? (p. 112)
- Is the external sound module set to play instead? (p. 23)
- Is the MIDI OUT (1 or 2) connector selected the proper one? (p. 23)
- If Control Change messages Number 7 (Volume) or Number 11 (Expression) are used in the song, are the values set low? Confirm levels in the Microscope window (p. 59).
- Is the EXPANSION LEVEL OUTPUT turned down? (Quick Start p. 4)
- Are external audio devices you may be using connected and functioning properly?
- Are any tracks set not to play in Track Mute (p. 33), Minus One (p. 34), or Solo (p. 34) settings?
- Are the settings of the "MIDI SETUP screen" correct? (p. 24)

Sound Device Tones Are Switched Arbitrarily

- Are any unnecessary Program Change messages on the tracks? Check in the Microscope window (p. 59).
- Are there any overlapping Program Changes from Track Edit or Pattern Call messages? Check in the Microscope window (p. 59).
- Were any mistakes made in setting the data MIDI channels when Program Change messages were input? Check in the Microscope window (p. 59).

Data Supposed to Be Present Does Not Appear in Microscope Window

- Are the wrong tracks selected? (p. 59)
- In VIEW SW (View Switch, p.61), is any data set not to be displayed?

Cannot Synchronize

- Are connections and settings correct? (p.120)
- Are the MC-80 and any external sound module properly connected at the MIDI connector? (Quick Start p. 2)
- When using MIDI Time Code (MTC) and MIDI Machine Control (MMC) for synchronization, does the external device support MTC and MMC?
- Is Quick Play currently being used? Use the procedure on p.93 to load the song.

Song (Data) Supposed to Be on the Disk Does Not Appear

- Are you searching in the wrong folder (p. 97)?
- If using multiple disk drives, is the wrong disk selected? (p. 28)

In the [SONG PLAY] window, the song cannot be selected, even when the [VALUE] dial is rotated.

- Is the current drive not correct? (p. 27)
- Is the current folder not correct? (p. 27)

The click sound is not played.

- Have the click settings (p. 26) been made correctly?
- Is the [CLICK LEVEL] knob on the rear panel turned completely down?

Parameters

SEQUENCER button

SONG PLAY [SEQUENCER]

Parameters	Range	Description	Preset	Categ.
File Name		filename.XXX		TEMP
Song Number	1 - 999	1 - 999	1	TEMP
Measure	1 - 9999	1 - 9999,	1	TEMP
Beat	01 - 32	01 - 32	01	TEMP
Clock	000 - 479	000 - 479	000	TEMP
Beat Number	1 - 32	1 - 32,	4	SONG
Beat Denom	2, 4, 8, 16	2, 4, 8, 16	4	SONG
Rec Trk	0 - 15	Trk1 - Trk16	Trk1	TEMP
Transpose	-24 - +24	-24 - 0 - +24	0	SONG
Ch				
Trk1	0 - 16	ALL, Ch1 - Ch16	Ch1	SONG
I	I	I	I	I
Trk16	0 - 16	ALL, Ch1 - Ch16	Ch16	SONG
Tempo	5 - 300	5 - 300	120	SONG
Repeat	0 - 99	Inf, 1 - 99	Inf	SONG
TOP Meas	1 - 9999	1 - 9999,	1	SONG
Beat	1 - 32	01 - 32	01	SONG
END Meas	2 - 9999	2 - 9999,	2	SONG
Beat	1 - 32	01 - 32	01	SONG
Next Song Queue	0 - 999	Empty, 001 - 999	Empty	TEMP

PATTERN PLAY [SEQUENCER] - [PATTERN]

Parameters	Range	Description	Preset	Categ.
Pattern Name		filename.XXX	—	TEMP
Pattern Number	1 - 100	001 - 100	1	TEMP
Measure	1 - 9999	1 - 9999,	1	TEMP
Beat	1 - 32	Beat : 01 - 32	01	TEMP
Clock	1 - 32	Beat : 01 - 32	01	TEMP
Beat Numer	1 - 32	1 - 32,	4	SONG
Beat Denom	2, 4, 8, 16	2, 4, 8, 16	4	SONG
Transpose	-24 - +24	-24 - 0 - +24	0	SONG
Ch	0 - 15	Ch1 - Ch16	Ch1	SONG
Tempo	5 - 300	5 - 300	120	SONG
Repeat	0 - 99	Inf, 1 - 99	Inf	SONG
TOP Meas	1 - 9999	1 - 9999	1	SONG
Beat	1 - 32	01 - 32	01	SONG
END Meas	2 - 9999	2 - 9999	2	SONG
Beat	1 - 32	01 - 32	01	SONG

SONG NAME [SEQUENCER] - [F1 (SETUP)] - [F1 (SONGNAME)]

Parameters	Range	Description	Preset	Categ.
Song Name		ASCII	—	SONG

SONG COPYRIGHT NOTICE	[SEQUENCER] - [F1 (SETUP)] - [F2 (COPYRIGHT)]			
Parameters	Range	Description	Preset	Categ.
Copyright Notice		ASCII	---	SONG

PHRASE SEQUENCE	[SEQUENCER] - [F1 (SETUP)] - [F3 (PHRASE)]			
Parameters	Range	Description	Preset	Categ.
Key(Note)	0 - 127	C-1 - G9	64 (E 4)	SONG
Pattern	-1 - 100	Stop, OFF, PTN001 - PTN100	OFF	SONG
Playback Mode	0 - 2	Loop1, Loop2, One Shot	Loop1	SONG
Mute Group	0 - 31	OFF, 1 - 31	OFF	SONG
Trigger Quantize	0 - 2	Realtime, At Beat, At Bar Line	Realtime	SONG
Velocity Sens	0 - 3	OFF, Low, Mid, High	OFF	TEMP

ARPEGGIO	[SEQUENCER] - [F1 (SETUP)] - [F4 (ARPEGGIO)]			
Parameters	Range	Description	Preset	Categ.
Style	0 - 42	(*1)	1/16	SONG
Motif	0 - 37	(*2)	SINGLE UP&DOWN	SONG
Beat Pattern	0 - 60	(*3)	1/ 16 1	SONG
Accent Rate	0 - 100	0% - 100%	20	SONG
Shuffle Rate	50 - 90	50% - 90%	50	SONG
Octave Range	-3 - +3	-3 - 0 - +3	0	SONG
Key Velocity	0 - 127	REAL, 1 - 127	REAL	SONG

(*1) Style :
1/ 4, 1/ 6, 1/ 8, 1/12, 1/16, 1/32,
GLISSANDO,
SEQUENCE A–D
ECHO,
SYNTH BASS, HEAVY SLAP, LIGHT SLAP, WALK BASS,
RHYTHM GTR A–E
3 FINGER GTR,
STRUMMING GTR,
KBD COMPING A–E,
PERCUSSION,
HARP,
SHAMISEN,
BOUND BALL,
RANDOM,
BOSSA NOVA
SALSA
MAMBO
LATIN PERCUSSION
SAMBA
TANGO
HOUSE
LIMITLESS

(*2) Motif :
SINGLE UP, SINGLE DOWN, SINGLE UP&DOWN, SINGLE RANDOM,
DUAL UP, DUAL DOWN, DUAL UP&DOWN, DUAL RANDOM,
TRIPLE UP, TRIPLE DOWN, TRIPLE UP&DOWN, TRIPLE RANDAM
NOTE ORDER,
GLISSAND,
CHORD,

BASS+CHORD 1, BASS+CHORD 2, BASS+CHORD 3, BASS+CHORD 4, BASS+CHORD 5,
BASS+UP 1, BASS+UP 2, BASS+UP 3, BASS+UP 4,
BASS+UP 5, BASS+UP 6, BASS+UP 7, BASS+UP 8,
BASS+RANDOM 1, BASS+RANDOM 2, BASS+RANDOM 3,
TOP+UP 1, TOP+UP 2, TOP+UP 3, TOP+UP 4, TOP+UP 5, TOP+UP 6,
BASS+UP+TOP

(*3) Beat Pattern :
1/ 4, 1/ 6, 1/ 8, 1/12,
1/16 1, 1/16 2, 1/16 3,
1/32 1, 1/32 2, 1/32 3,
SEQ-A 1, SEQ-A 2, SEQ-A 3, SEQ-A 4, SEQ-A 5, SEQ-A 6, SEQ-A 7,
SEQ-B 1, SEQ-B 2, SEQ-B 3, SEQ-B 4,
SEQ-C 1, SEQ-C 2,
ECHO 1, ECHO 2, ECHO 3,
MUTE 01, MUTE 02, MUTE 03, MUTE 04, MUTE 05, MUTE 06, MUTE 07, MUTE 08,
MUTE 09, MUTE 10, MUTE 11, MUTE 12, MUTE 13, MUTE 14, MUTE 15, MUTE 16,
STRUM 1, STRUM 2, STRUM 3, STRUM 4, STRUM 5, STRUM 6, STRUM 7, STRUM 8,
REGGAE, REFRAIN 1, REFRAIN 2,
PERC1, PERC2, PERC3, PERC4,
WALKBS,
HARP,
BOUND,
RANDOM

MARK — [SEQUENCER] - [F1 (SETUP)] - [F5 (MARKJUMP)]

Parameters	Range	Description	Preset	Categ.
Mark Set Timing	1 - 2	At Beat, At Bar Line	At Beat	SONG
Mark Jump Timing	1 - 2	At Beat, At Bar Line	At Bar Line	SONG
{Mark1-4}				
Switch	0 - 1	OFF, ON	OFF	SONG
Position				
Measure	1 - 9999	Meas.: 0001 - 9999,	***-**-***	SONG
	1 - 32	Beat : 01 - 32,		

SONG INFO — [SEQUENCER] - [F1 (SETUP)] - [F6 (SONGINFO)]

Parameters	Range	Description	Preset	Categ.
Trk10 High priority Play Sw	0 - 1	OFF, ON	OFF	SONG
Fade out time (sec)	1 - 30	1 - 30	10	SONG

GRID QUANTIZE — [SEQUENCER] - [F2 (QUANTIZE)] - [F1 (GRID)]
[SEQUENCER] - [PATTERN] - [F2 (QUANTIZE)] - [F1 (GRID)]

Parameters	Range	Description	Preset	Categ.
Target (Track)		Trk 1 - Trk16	Trk 1	TEMP
(Pattern)		PTN 1 - PTN100	PTN001	TEMP
Measure	1 - 9998	1 - 9998	1	TEMP
For	1 - 9998, 0	1 - 9998, ALL	ALL	TEMP
Note Range				
Lower	0 - 127	C-1 - G9	C-1	TEMP
Upper	0 - 127	C-1 - G9	G9	TEMP
Channel	0 - 16	ALL, Ch1 - Ch16	ALL	TEMP
Resolution	0 - 6	1/32, 1/24, 1/16, 1/12, 1/ 8, 1/ 6, 1/ 4	1/16	TEMP
Strength	0 - 100	0% - 100%	100	TEMP

SHUFFLE QUANTIZE [SEQUENCER] - [F2 (QUANTIZE)] - [F2 (SHUFFLE)]
[SEQUENCER] - [PATTERN] - [F2 (QUANTIZE)] - [F2 (SHUFFLE)]

Parameters	Range	Description	Preset	Categ.
Target (Track)		Trk 1 - Trk16	Trk 1	TEMP
(Pattern)		PTN 1 - PTN100	PTN001	TEMP
Measure	1 - 9998	1 - 9998	1	TEMP
For	1 - 9998, 0	1 - 9998, ALL	ALL	TEMP
Note Range				
Lower	0 - 127	C-1 - G9	C-1	TEMP
Upper	0 - 127	C-1 - G9	G9	TEMP
Channel	0 - 16	ALL, Ch1 - Ch16	ALL	TEMP
Resolution	0 - 1	1/16, 1/ 8	1/16	TEMP
Rate	0 - 100	0% - 100%	57	TEMP

GROOVE QUANTIZE [SEQUENCER] - [F2 (QUANTIZE)] - [F3 (GROOVE)]
[SEQUENCER] - [PATTERN] - [F2 (QUANTIZE)] - [F3 (GROOVE)]

Parameters	Range	Description	Preset	Categ.
Target (Track)		Trk 1 - Trk16	Trk 1	TEMP
(Pattern)		PTN 1 - PTN100	PTN001	TEMP
Measure	1 - 9998	1 - 9998	1	TEMP
For	1 - 9998, 0	1 - 9998, ALL	ALL	TEMP
Note Range				
Lower	0 - 127	C-1 - G9	C-1	TEMP
Upper	0 - 127	C-1 - G9	G9	TEMP
Channel	0 - 16	ALL, Ch1 - Ch16	ALL	TEMP
Template		Preset, User	Preset	TEMP
Number		1 - 71 (Preset)	1 - 71 (Preset)	1 TEMP
	1 - 16 (User)	1 - 16 (User)		
Timing Strength	0 - 100	0% - 100%	100	TEMP
Velocity Strength	0 - 100	0% - 100%	100	TEMP

EDIT 1: ERASE [SEQUENCER] - [F3 (TRK EDIT)] - [F6 (SELECT)]
[SEQUENCER] - [PATTERN] - [F3 (TRK EDIT)] - [F6 (SELECT)]

Parameters	Range	Description	Preset	Categ.
Target (Track)		Trk ALL, Trk 1 - Trk16, Tempo	Trk ALL	TEMP
(Pattern)		PTN 1 - PTN100	PTN001	TEMP
Measure	1 - 9998	1 - 9998	1	TEMP
for	1 - 9998, 0	1 - 9998, ALL	ALL	TEMP
Status	0 - 9	ALL, NOTE, P.AFT, C.C, PROG, C.AFT, BEND, EXC, TUNE, PTN	ALL	TEMP
{Status = ALL, C.AFT, BEND, EXC, TUNE, PTN}				
Range Lower	---	---	---	---
Range Upper	---	---	---	---
{Status = NOTE, P.AFT}				
Range Lower	0 - 127	C -1 - G9	C -1	TEMP
Range Upper	0 - 127	C -1 - G9	G 9	TEMP
{Status = C.C}				
Range Lower	0 - 127	0 - 127	0	TEMP
Range Upper	0 - 127	0 - 127	127	TEMP
{Status = PROG}				

Range Lower	0 - 127	1 - 128	1	TEMP
Range Upper	0 - 127	1 - 128	128	TEMP
Channel	0 - 16	ALL, 1 - 16	ALL	TEMP

EDIT 2-1: DELETE

[SEQUENCER] - [F3 (TRK EDIT)] - [F6 (SELECT)] - [F1 (DELETE)]
[SEQUENCER] - [PATTERN] - [F3 (TRK EDIT)] - [F6 (SELECT)] - [F1 (DELETE)]

Parameters	Range	Description	Preset	Categ.
Target (Track)		Trk ALL, Trk 1 - Trk16, Tempo	Trk ALL	TEMP
(Pattern)		PTN 1 - PTN100	PTN001	TEMP
Measure	1 - 9998	1 - 9998	1	TEMP
for	1 - 9998, 0	1 - 9998, ALL	ALL	TEMP

EDIT 2-2: TRANCATE

[SEQUENCER] - [F3 (TRK EDIT)] - [F6 (SELECT)] - [F2 (TRUNCATE)]
[SEQUENCER] - [PATTERN] - [F3 (TRK EDIT)] - [F6 (SELECT)] - [F2 (TRUNCATE)]

Parameters	Range	Description	Preset	Categ.
Target (Track)		Trk 1 - Trk16	Trk ALL	TEMP
(Pattern)		PTN 1 - PTN100	PTN001	TEMP
From Meas.	1 - 9998	0001 - 9998,	1	TEMP
Beat	1 - 32	01 - 32,	01	TEMP
Tick	0 - 480	000 - 480	000	TEMP
To Meas.	1 - 9999	0001 - 9999,	(1st note position)	TEMP
Beat	1 - 32	10 - 32,	(1st note position)	TEMP
Tick	0 - 480	000 - 480	(1st note position)	TEMP

EDIT 3: COPY

[SEQUENCER] - [F3 (TRK EDIT)] - [F6 (SELECT)]
[SEQUENCER] - [PATTERN] - [F3 (TRK EDIT)] - [F6 (SELECT)]

Parameters	Range	Description	Preset	Categ.
Source				
Target (Track)		Trk ALL, Trk 1 - Trk16, Tempo	Trk ALL	TEMP
(Pattern)		PTN 1 - PTN100	PTN001	TEMP
Measure	1 - 9998	1 - 9998	1	TEMP
for	1 - 9998, 0	1 - 9998, ALL	ALL	TEMP
{Source = TRK ALL}				
Destination		TRK ALL, TRK T, PTN001 - PTN100	TRK ALL	TEMP
{Source = TRK1 - TRK16}				
Destination		TRK1 - TRK16, PTN001 - PTN100	TRK1	TEMP
{Source = TRK T}				
Destination		TRK T	TRK T	TEMP
{Source = PTN001 - PTN100}				
Destination		TRK1 - TRK16, PTN001 - PTN100	TRK1	TEMP
Measure	1 - 9998	1 - 9998	1	TEMP
for	1 - 9998, 0	1 - 9998, ALL	ALL	TEMP
Mode	0 - 1	Mix, Replace	Replace	TEMP
Times	1 - 999	1 - 999	1	TEMP

Status	0 - 9	ALL, NOTE, P.AFT, C.C, PROG, C.AFT, BEND, EXC, TUNE, PTN	ALL	TEMP
{Status = ALL, C.AFT, BEND, EXC, TUNE, PTN}				
Range Lower	---	---	---	---
Range Upper	---	---	---	---
{Status = NOTE, P.AFT}				
Range Lower	0 - 127	C-1 - G9	C-1	TEMP
Range Upper	0 - 127	C-1 - G9	G9	TEMP
{Status = C.C}				
Range Lower	0 - 127	0 - 127	0	TEMP
Range Upper	0 - 127	0 - 127	127	TEMP
{Status = PROG}				
Range Lower	0 - 127	1 - 128	1	TEMP
Range Upper	0 - 127	1 - 128	128	TEMP
Channel	0 - 16	ALL, 1 - 16	ALL	TEMP

EDIT 4: INSERT MEAS [SEQUENCER] - [F3 (TRK EDIT)] - [F6 (SELECT)]

Parameters	Range	Description	Preset	Categ.
Target (Track)		Trk ALL, Trk 1 - Trk16, Tempo	Trk ALL	TEMP
(Pattern)		PTN 1 - PTN100	PTN001	TEMP
Measure	1 - 9998	1 - 9998	1	TEMP
for	1 - 9998, 0	1 - 9998, ALL	1	TEMP
{Target = TRK ALL}				
Beat	1 - 32 2, 4, 8, 16	Numer.: 1 - 32, Denom.: 2, 4, 8, 16	4/4	TEMP
{Traget != Trk 1 - Trk16, Tempo}				
Beat	---	---	---	---

EDIT 5: TRANSPOSE [SEQUENCER] - [F3 (TRK EDIT)] - [F6 (SELECT)]
[SEQUENCER] - [PATTERN] - [F3 (TRK EDIT)] - [F6 (SELECT)]

Parameters	Range	Description	Preset	Categ.
Target (Track)		Trk ALL, Trk 1 - Trk16	Trk ALL	TEMP
(Pattern)		PTN 1 - PTN100	PTN001	TEMP
Measure	1 - 9998	1 - 9998	1	TEMP
for	1 - 9998, 0	1 - 9998, ALL	ALL	TEMP
Range lower	0 - 127	C-1 - G9	C-1	TEMP
Range upper	0 - 127	C-1 - G9	G9	TEMP
Bias	-127 - +127	-127 - 0 - +127	0	TEMP
Channel	0 - 16	ALL, 1 - 16	ALL	TEMP

EDIT 6: CHANGE VELOCITY [SEQUENCER] - [F3 (TRK EDIT)] - [F6 (SELECT)]
[SEQUENCER] - [PATTERN] - [F3 (TRK EDIT)] - [F6 (SELECT)]

Parameters	Range	Description	Preset	Categ.
Target (Track)		Trk ALL, Trk 1 - Trk16	Trk ALL	TEMP
(Pattern)		PTN 1 - PTN100	PTN001	TEMP
Measure	1 - 9998	1 - 9998	1	TEMP
for	1 - 9998, 0	1 - 9998, ALL	ALL	TEMP
Bias	-99 - +99	-99 - 0 - +99	0	TEMP
Magnify		0 - 200	0% - 200%	1 TEMP
Channel	0 - 16	ALL, 1 - 16	ALL	TEMP

Range lower	0 - 127	C-1 - G9	C-1	TEMP
Range upper	0 - 127	C-1 - G9	G9	TEMP
Curve	0 - 7	0 - 7	0	TEMP

EDIT 7: CHANGE MIDI CHANNEL [SEQUENCER] - [F3 (TRK EDIT)] - [F6 (SELECT)]
[SEQUENCER] - [PATTERN] - [F3 (TRK EDIT)] - [F6 (SELECT)]

Parameters	Range	Description	Preset	Categ.
Target (Track)		Trk ALL, Trk 1 - Trk16	Trk ALL	TEMP
(Pattern)		PTN 1 - PTN100	PTN001	TEMP
Measure	1 - 9998	1 - 9998	1	TEMP
for	1 - 9998, 0	1 - 9998, ALL	ALL	TEMP
Status	0 - 6	ALL, NOTE, P.AFT, C.C, PROG, C.AFT, BEND	ALL	TEMP
{Status = ALL, C.AFT, BEND}				
Range Lower	---	---	---	---
Range Upper	---	---	---	---
{Status = NOTE, P.AFT}				
Range Lower	0 - 127	C-1 - G9	C-1	TEMP
Range Upper	0 - 127	C-1 - G9	G9	TEMP
{Status = C.C}				
Range Lower	0 - 127	0 - 127	0	TEMP
Range Upper	0 - 127	0 - 127	127	TEMP
{Status = PROG}				
Range Lower	0 - 127	1 - 128	1	TEMP
Range Upper	0 - 127	1 - 128	128	TEMP
Channel Old	0 - 16	ALL, 1 - 16	1	TEMP
Channel New	0 - 15	1 - 16	1	TEMP

EDIT 8: CHANGE GATETIME [SEQUENCER] - [F3 (TRK EDIT)] - [F6 (SELECT)]
[SEQUENCER] - [PATTERN] - [F3 (TRK EDIT)] - [F6 (SELECT)]

Parameters	Range	Description	Preset	Categ.
Target (Track)		Trk ALL, Trk 1 - Trk16	Trk ALL	TEMP
(Pattern)		PTN 1 - PTN100	PTN001	TEMP
Measure	1 - 9998	1 - 9998	1	TEMP
for	1 - 9998, 0	1 - 9998, ALL	ALL	TEMP
Bias	-4800 - +4800	-4800 - 0 - +4800	0	TEMP
Magnify	0 - 200	0% - 200%	1	TEMP
Channel	0 - 16	ALL, 1 - 16	ALL	TEMP
Range lower	0 - 127	C-1 - G9	C-1	TEMP
Range upper	0 - 127	C-1 - G9	G9	TEMP

EDIT 9: MERGE [SEQUENCER] - [F3 (TRK EDIT)] - [F6 (SELECT)]
[SEQUENCER] - [PATTERN] - [F3 (TRK EDIT)] - [F6 (SELECT)]

Parameters	Range	Description	Preset	Categ.
Target (Track)		Trk 1 - Trk16	Trk 1	TEMP
(Pattern)		PTN 1 - PTN100	PTN001	TEMP
Destination(Track)		Trk 1 - Trk16	Trk 1	TEMP
(Pattern)		PTN 1 - PTN100	PTN001	TEMP

EDIT10: EXTRACT [SEQUENCER] - [F3 (TRK EDIT)] - [F6 (SELECT)]
[SEQUENCER] - [PATTERN] - [F3 (TRK EDIT)] - [F6 (SELECT)]

Parameters	Range	Description	Preset	Categ.
Source (Track)		Trk 1 - Trk16	Trk 1	TEMP

(Pattern)		PTN 1 - PTN100	PTN001	TEMP
Measure	1 - 9998	1 - 9998	1	TEMP
for	1 - 9998, 0	1 - 9998, ALL	ALL	TEMP
Destination(Track)		ALL, Trk 1 - Trk16	ALL	TEMP
(Pattern)		PTN 1 - PTN100	PTN001	TEMP
Mode	0 - 1	Mix, Replace	Replace	TEMP
Status	0 - 9	ALL, NOTE, P.AFT, C.C, PROG, C.AFT, BEND, EXC, TUNE, PTN	ALL	TEMP
{Status = ALL, C.AFT, BEND, EXC, TUNE, PTN}				
Range Lower	---	---	---	---
Range Upper	---	---	---	---
{Status = NOTE, P.A			FT}	
Range Lower	0 - 127	C-1 - G9	C-1	TEMP
Range Upper	0 - 127	C-1 - G9	G9	TEMP
{Status = C.C}				
Range Lower	0 - 127	0 - 127	0	TEMP
Range Upper	0 - 127	0 - 127	127	TEMP
{Status = PROG}				
Range Lower	0 - 127	1 - 128	1	TEMP
Range Upper	0 - 127	1 - 128	128	TEMP
Channel	0 - 16	ALL, 1 - 16	ALL	TEMP

EDIT11: SHIFT CLOCK

[SEQUENCER] - [F3 (TRK EDIT)] - [F6 (SELECT)]
[SEQUENCER] - [PATTERN] - [F3 (TRK EDIT)] - [F6 (SELECT)]

Parameters	Range	Description	Preset	Categ.
Target (Track)		ALL, Trk 1 - Trk16, Tempo	Trk ALL	TEMP
(Pattern)		PTN 1 - PTN100	PTN001	TEMP
Measure	1 - 9998	1 - 9998	1	TEMP
for	1 - 9998, 0	1 - 9998, ALL	ALL	TEMP
Bias	-4800 - +4800	-4800 - 0 - +4800	0	TEMP
Status	0 - 9	ALL, NOTE, P.AFT, C.C, PROG, C.AFT, BEND, EXC, TUNE, PTN	ALL	TEMP
{Status = ALL, C.AFT, BEND, EXC, TUNE, PTN}				
Range Lower	---	---	---	---
Range Upper	---	---	---	---
{Status = NOTE, P.AFT}				
Range Lower	0 - 127	C-1 - G9	C-1	TEMP
Range Upper	0 - 127	C-1 - G9	G9	TEMP
{Status = C.C}				
Range Lower	0 - 127	0 - 127	0	TEMP
Range Upper	0 - 127	0 - 127	127	TEMP
{Status = PROG}				
Range Lower	0 - 127	1 - 128	1	TEMP
Range Upper	0 - 127	1 - 128	128	TEMP
Channel	0 - 16	ALL, 1 - 16	ALL	TEMP

EDIT12: DATA THIN

[SEQUENCER] - [F3 (TRK EDIT)] - [F6 (SELECT)]
[SEQUENCER] - [PATTERN] - [F3 (TRK EDIT)] - [F6 (SELECT)]

Parameters	Range	Description	Preset	Categ.
Target (Track)		ALL, Trk 1 - Trk16	ALL	TEMP
(Pattern)		PTN 1 - PTN100	PTN001	TEMP

Measure	1 - 9998	1 - 9998	1	TEMP
for	1 - 9998, 0	1 - 9998, ALL	ALL	TEMP
Value	0 - 99	0 - 99	6	TEMP
Times	1 - 999	1 - 999	6	TEMP
Status	0 - 4	ALL, P.AFT, C.C, C.AFT, BEND	ALL	TEMP
{Status = ALL, C.AFT, BEND}				
Range Lower	---	---	---	---
Range Upper	---	---	---	---
{Status = P.AFT}				
Range Lower	0 - 127	C-1 - G9	C-1	TEMP
Range Upper	0 - 127	C-1 - G9	G9	TEMP
{Status = C.C}				
Range Lower	0 - 127	0 - 127	0	TEMP
Range Upper	0 - 127	0 - 127	127	TEMP
Channel	0 - 16	ALL, 1 - 16	ALL	TEMP

EDIT13: EXCHANGE

[SEQUENCER] - [F3 (TRK EDIT)] - [F6 (SELECT)]
[SEQUENCER] - [PATTERN] - [F3 (TRK EDIT)] - [F6 (SELECT)]

Parameters	Range	Description	Preset	Categ.
Target (Track)		Trk 1 - Trk16	Trk 1	TEMP
(Pattern)		PTN 1 - PTN100	PTN001	TEMP
Destination(Track)		Trk 1 - Trk16	Trk 2	TEMP
(Pattern)		PTN 1 - PTN100	PTN001	TEMP

EDIT14: TIME FIT

[SEQUENCER] - [F3 (TRK EDIT)] - [F6 (SELECT)]
[SEQUENCER] - [PATTERN] - [F3 (TRK EDIT)] - [F6 (SELECT)]

Parameters	Range	Description	Preset	Categ.
Measure	1 - 9998	1 - 9998	1	TEMP
for	1 - 9998, 0	1 - 9998, ALL	ALL	TEMP
Time		00 00'00" - 23 59'59"	current time	TEMP

EDIT15: MODIFY VALUE

[SEQUENCER] - [F3 (TRK EDIT)] - [F6 (SELECT)]
[SEQUENCER] - [PATTERN] - [F3 (TRK EDIT)] - [F6 (SELECT)]

Parameters	Range	Description	Preset	Categ.
Track/Pattern		ALL, TRK1 - TRK16, Tempo PTN 1 - PTN100	TRK ALL	TEMP
Measure	1 - 9998	1 - 9998	1	TEMP
for	1 - 9998, 0	1 - 9998, ALL	ALL	TEMP
[F1 (MODIFY)]				
Type	0-1	Compand, Reverse	Compand	TEMP
Magnify (Type = Compand only)	0-200	0.00 - 2.00	1	TEMP
{Status = Ch Af, P.Bend}				
Range Lower		---	---	--- ---
Range Upper		---	---	--- ---
{Status = Note, Poly Af}				
Range Lower	0 - 127	C-1 - G9	C-1	TEMP
Range Upper	0 - 127	C-1 - G9	G9	TEMP
{Status = CC}				
Range Lower	0 - 127	0 - 127	0	TEMP
Range Upper	0 - 127	0 - 127	127	TEMP

{Status = Velocity}				
Range Lower	0 - 127	1 - 128	1	TEMP
Range Upper	0 - 127	1 - 128	128	TEMP
Channel	0 - 16	ALL, 1 - 16	ALL	TEMP
[F2 (SHIFT #)]				
Source	0 - 127	0 - 127	0	TEMP
Destination	0 - 127	0 - 127	0	TEMP
Status	0 - 3	Note, CC, All Oct.		TEMP

STEP REC

STEP REC STANDBY (SONG) [SEQUENCER], [SHIFT] - [REC], F6 [STEP]

Parameters	Range	Description	Preset	Categ.
Meas	1 - 9999	1 - 9999,	1	TEMP
Beat	01 - 32	01 - 32	01	TEMP
Clock	000 - 480	000 - 480	000	TEMP
Channel	0 - 15	1 - 16	—	TEMP
Note Number	0 - 127	C-1 - G9	—	TEMP
Velocity		0 - 127	0 - 127	— TEMP
Gate Time	1 - 960	1 - 960	—	TEMP
Step Time	0 - 8	1/64, 1/32, 1/24, 1/16, 1/12, 1/ 8, 1/ 6, 1/ 4, 1/ 2	1/ 4	TEMP
Gate Ratio	1 - 100	1% - 100%	0.8	TEMP
Velocity	0 - 127	REAL, 1 - 127	REAL	TEMP

STEP REC STANDBY (PTN) [SEQUENCER] - [PATTERN], [SHIFT] - [REC], F6 [STEP]

Parameters	Range	Description	Preset	Categ.
Meas	1 - 9999	1 - 9999,	1	TEMP
Beat	01 - 32	01 - 32	01	TEMP
Clock	000 - 480	000 - 480	000	TEMP
Pattern	1 - 100	PTN001 - PTN100	PTN001	TEMP
Pattern Name		ASCII x 10	—	SONG
Beat	1 - 32	Numer.: 1 - 32,	4/4	SONG
	2, 4, 8, 16	Denom.: 2, 4, 8, 16		
Length	1 - 9998	1 - 9998	0	SONG

MICRO

MICROSCOPE EDIT [SEQUENCER] - [F4 (MICRO)] - [F1 (CREATE)]

CREATE [SEQUENCER] - [PATTERN] - [F4 (MICRO)] - [F1 (CREATE)]

Create Event	0 -10	Note/Poly Aftertouch Control Change/Program Change Channel Aft/Pitch Bend/ Tune Request/SysEx/ SysEx(GM ON)/SysEx(GM OFF)/ SysEx(GS Reset), Pattern Call	—	TEMP

MICROSCOPE EDIT [SEQUENCER] - [F4 (MICRO)] - [F3 (MOVE)]

MOVE [SEQUENCER] - [PATTERN] - [F4 (MICRO)] - [F3 (MOVE)]

Meas	1 - 9999	1 - 9999,	1	TEMP
Beat	01 - 32	01 - 32	01	TEMP

Clock	000 - 480	000 - 480	000	TEMP

MICROSCOPE EDIT	[SEQUENCER] - [F4 (MICRO)] - [F6 (VIEW SW)]			
VIEW SW	[SEQUENCER] - [PATTERN] - [F4 (MICRO)] - [F6 (VIEW SW)]			
Note	0 - 1	OFF/ON	ON	TEMP
Poly Aftertouch	0 - 1	OFF/ON	ON	TEMP
Control Change	0 - 1	OFF/ON	ON	TEMP
Program Change	0 - 1	OFF/ON	ON	TEMP
Ch Aftertouch	0 - 1	OFF/ON	ON	TEMP
Pitch Bend	0 - 1	OFF/ON	ON	TEMP
SysEx	0 - 1	OFF/ON	ON	TEMP
Tune Request	0 - 1	OFF/ON	ON	TEMP
Pattern Call	0 - 1	OFF/ON	ON	TEMP
MIDI Ch	0 - 1	OFF/ON	ON	TEMP
Note Map	0 - 1	OFF/ON	ON	TEMP

TRACK INFO	[SEQUENCER] - [F6 (TRK INFO)]			
Parameters	Range	Description	Preset	Categ.
Mute	0 - 1	PLAY/.....	PLAY	SONG
Out	0 - 2	1/2/1 2	1	SONG
Rec Channel	0 - 15	Ch1 - Ch16		SONG

REC STANDBY (SONG)	[SEQUENCER] - [REC]			
Parameters	Range	Description	Preset	Categ.
Rec Trk	1 - 16	Trk1 - 16	---	TEMP
Count In	0 - 3	OFF, 1 Meas, 2 Meas, Wait Note	1 Meas	TEMP
Rec Mode	0 - 1	Mix, Replace	Mix	TEMP
TempoRec	0 - 1	OFF/ON		TEMP
Ch	0 - 16	ALL, Ch 1 - 16	Ch 1	TEMP
Tempo	5 - 300	5 - 300	120	TEMP
Qntz	0 - 2	OFF, Grid, Shuffle		
Reso	0 - 1	16, 8		
Str	0 - 100	0-100		
Loop/Punch	0 - 9	OFF, Loop (Point), Loop (1 Meas.) Loop (2 Meas.), Loop (4 Meas.) Loop (8 Meas.), Loop (16 Meas.) Loop (All), Auto Punch In Manual Punch In		
Loop/Punch = Loop (Point), Auto Punch In				
Start Meas	1 - 9998	1 - 9998,	1	TEMP
Beat	1 - 32	01 - 32	01	TEMP
Clocl	0 - 480	000 - 480	000	TEMP
End Meas	2 - 9998	2 - 9998,	2	TEMP
Beat	1 - 32	01 - 32	01	TEMP
Clocl	0 - 480	000 - 480	000	TEMP

REC STANDBY (PATTERN)	[SEQUENCER] - [PATTERN] - [REC]			
Parameters	Range	Description	Preset	Categ.

Rec Trk		1 - 16	Trk1 - 16	--- TEMP
Count In	0 - 3	OFF, 1 Meas, 2 Meas, Wait Note	1 Meas	TEMP
Rec Mode	0 - 2	Mix, Replace	Mix	TEMP
Ch		ALL, Ch 1 - 16	Ch 1	TEMP
Tempo		5 - 300	120	TEMP
Qntz	0 - 2	OFF, Grid, Shuffle		
Reso	0 - 1	16, 8		
Str	0 - 100	0-100		
Loop/Punch		OFF, Loop (Point), Loop (1 Meas.) Loop (2 Meas.), Loop (4 Meas.) Loop (8 Meas.), Loop (16 Meas.) Loop (All), Auto Punch In Manual Punch In		
Loop/Punch = Loop (Point), Auto Punch In				
Start Meas	1 - 9998	1 - 9998,	1	TEMP
Beat	1 - 32	01 - 32	01	TEMP
Clocl	0 - 479	000 - 479	000	TEMP
End Meas	1 - 9998	1 - 9998,	1	TEMP
Beat	1 - 32	01 - 32	01	TEMP
Clocl	0 - 480	000 - 480	000	TEMP

TRANSPOSE button

REALTIME TRANSPOSE [TRANSPOSE]

Parameters	Range	Description	Preset	Categ.
Transpose	C -1 - G 9	C -1 - G 9	48 (C3)	TEMP
Value	-24 - +24	-24 - 0 - +24	0	SONG
Transpose Switch				
Ch1	0 - 1	OFF/ON	ON	SONG
I	I	I	I	I
Ch9	I	I	ON	I
Ch10	I	I	OFF	I
Ch11	I	I	ON	I
I	I	I	I	I
Ch16	0 - 1	OFF/ON	ON	SONG

TEMPO button

TEMPO [TEMPO]

Parameters	Range	Description	Preset	Categ.
Tempo	5 - 300	5 - 300	120	SONG

SONG VIEW SW [SELECT] - [F3 (VIEW SW)]

Parameters	Range	Description	Preset	Categ.
SMF (Format 0)	0 - 1	OFF, ON	ON	TEMP
SMF (Format 1)	0 - 1	OFF, ON	ON	TEMP
SONG (MC-80)	0 - 1	OFF, ON	ON	TEMP
S-MRC	0 - 1	OFF, ON	ON	TEMP

TOOLS button

DISPLAY CONTRAST — [TOOLS] - [F1 (SYSTEM)] - [F1 (DISPLAY)]

Parameters	Range	Description	Preset	Categ.
Display Contrast	1 - 10	Display Contrast	5	SYSTEM

SYSTEM — [TOOLS] - [F1 (SYSTEM)] - [F2 (OPTION)]

Parameters	Range	Description	Preset	Categ.
SMF Format0 Ch Extract Switch	0 - 1	OFF/ON	OFF	SYSTEM

FOOT SWITCH SETUP — [TOOLS] - [F1 (SYSTEM)] - [F3 (FOOT SW)]

Parameters	Range	Description	Preset	Categ.	
Mode	0 - 10	Start/Stop, Punch In/Out, Top End Repeat ON/OFF, Jump Marker 1, Jump Marker 2, Jump Marker 3, Jump Marker 4, Fade out Tap	Play/Stop, Punch In/Out	SYSTEM	
Polarity		0 - 1	Standard, Reverse	Standard	SYSTEM

METRONOME SETUP — [TOOLS] - [F2 (METRONOME)]
[TOOLS] - [PATTERN] - [F2 (METRONOME)]

Parameters	Range	Description	Preset	Categ.
Mode	0 - 4	OFF, Play Only, Rec Only, Play & Rec, Always	Rec Only	SYSTEM
Interval	0 - 6	Auto, 1/2, 3/8, 1/4, 1/8, 1/12, 1/16	Auto	SYSTEM
Beep	0 - 1	OFF, ON	ON	SYSTEM
MIDI				
Output	1 -* 3	OFF, 1 Only, 2 Only, 1&2	1 Only	SYSTEM
Channel	0 - 15	Ch1 - Ch16	Ch10	SYSTEM
Gate time	0 - 5	0 - 5	5	SYSTEM
Accent				
Number	0 - 127	C -1 - G 9	34 (A#1)	SYSTEM
Velocity	0 - 127	0 - 127	127	SYSTEM
Normal				
Number	0 - 127	C -1 - G 9	33 (A 1)	SYSTEM
Velocity	0 - 127	0 - 127	100	SYSTEM

MIDI SETUP — [TOOLS] - [F3 (MIDI)] - [F1 (SETUP)]

Parameters	Range	Description	Preset	Categ.
MIDI Patch Mode	0 - 2	SEQUENCER, SOUND MODULE (32 Part), SOUND MODULE (16 Part),	SEQUENCER	SYSTEM

{MIDI Patch Mode = Sequencer}				
SEQ MIDI IN	0 - 2	OFF/IN1/IN2	IN1	SYSTEM
SEQ MIDI OUT	0 - 3	OFF/1 Only/2 Only/1 & 2	1 & 2	SYSTEM
SEQ To V-Exp	0 - 3	OFF/A Only/B Only/A & B	A & B	SYSTEM
Thru Select	0 - 1	THRU/EXP OUT	THRU	SYSTEM
Soft Thru	0 - 1	OFF/ON	ON	SYSTEM
{MIDI Patch Mode = Sound Module (32 Part)}				
MIDI Out Select				
SEQ MIDI IN	0	OFF	OFF	SYSTEM
SEQ MIDI OUT	0 - 3	OFF/1 Only/2 Only/1 & 2	1 & 2	SYSTEM
SEQ To V-Exp	0	OFF	OFF	SYSTEM
Thru Select	1	EXP OUT	EXP OUT	SYSTEM
Soft Thru	0 - 1	OFF/ON	ON	SYSTEM
{MIDI Patch Mode = Sound Module (16 Part)}				
SEQ MIDI IN	0 - 2	OFF/IN1	IN1	SYSTEM
SEQ MIDI OUT	0 - 3	OFF/1 Only/2 Only/1 & 2	1 & 2	SYSTEM
SEQ To V-Exp	0 - 3	OFF/A Only	A Only	SYSTEM
Thru Select	0 - 1	THRU/EXP OUT	THRU	SYSTEM
Soft Thru	0 - 1	OFF/ON	ON	SYSTEM

SEQ MIDI INPUT SWITCH [TOOLS] - [F3 (MIDI)] - [F2 (INPUT SW)]

Parameters	Range	Description	Preset	Categ.
Note	0 - 1	OFF/ON	ON	TEMP
Poly Af	0 - 1	OFF/ON	ON	TEMP
PC	0 - 1	OFF/ON	ON	TEMP
Ch Af	0 - 1	OFF/ON	ON	TEMP
P Bend	0 - 1	OFF/ON	ON	TEMP
SysEx	0 - 1	OFF/ON	ON	TEMP
CC	0 - 1	OFF/ON	ON	TEMP
Mod	0 - 1	OFF/ON	ON	TEMP
Foot	0 - 1	OFF/ON	ON	TEMP
Volume	0 - 1	OFF/ON	ON	TEMP
Pan	0 - 1	OFF/ON	ON	TEMP
Exp	0 - 1	OFF/ON	ON	TEMP
Hold	0 - 1	OFF/ON	ON	TEMP
Sost	0 - 1	OFF/ON	ON	TEMP
Soft	0 - 1	OFF/ON	ON	TEMP
Breath	0 - 1	OFF/ON	ON	TEMP
Effect	0 - 1	OFF/ON	ON	TEMP
RPN/NRPN	0 - 1	OFF/ON	ON	TEMP

SYNC [TOOLS] - [F3 (MIDI)] - [F3 (SYNC)]

Parameters	Range	Description	Preset	Categ.
Mode	0 - 3	Master, Slave (MIDI), Slave (MTC), Remote	Master	SYSTEM
MIDI Sync Output	0 - 3	OFF, OUT1, OUT 2, 1&2	OUT 1	SYSTEM
MMC Mode	0 - 1	Master, Slave	Master	SYSTEM
MMC Output	0 - 2	OFF, OUT1, OUT 2	OFF	SYSTEM
MTC Sync out	1 - 2	OFF, OUT1, OUT2	OFF	SYSTEM
Frame Rate	0 - 4	24, 25, 29N, 29D, 30	30	SYSTEM
Offset Time		00:00:00:00 - 23:59:59:29	00:00:00:00	SYSTEM
Error Level	0 - 10	0 - 10	5	SYSTEM

CLEAR SONG	[TOOLS] - [F4 (CLEAR)]			
Parameters	Range	Description	Preset	Categ.
CLEAR SONG		**New Song, GM SETUP GS SETUP, Demo for VE-GS**	**New Song**	**TEMP**

List of Function Button Combinations

(Example) SHIFT + EXIT means that the EXIT button is pressed while the SHIFT button is held down.

SHIFT + EXIT	Undo/Redo (Undoes execution of editing and recording steps)
SHIFT + TOP	"Panic" (This stops all sounds being played.)
SHIFT + STOP	Shut Down (This prepares the MC-80 so that its power can be turned off safely.)
SHIFT + END	Fade-Out (This is used for fading out songs and Patterns.)
SHIFT + PLAY	MIDI Update (This sends the correct MIDI data for the current position to the sound generator.)
SHIFT + TRACK 1–16	This is used for selecting the recording tracks.
SHIFT + MARKER 1–4	This is used for deleting and resetting Markers 1–4.
SHIFT + REC	This calls up the STEP RECORDING STANDBY screen.
SHIFT+SOLO:	All track buttons are lit.
SHIFT+MINUS ONE:	Lights on all track buttons are turned off.
TOOLS + VALUE:	Adjust the Display Contrast.

(Example) TOOLS - ARPEGGIATOR means that the TOOLS button is pressed first, and then the ARPEGGIATOR button is pressed after that.

TOOLS - ARPEGGIATOR	This calls up the ARPEGGIATOR settings screen.
TOOLS - PHRASE SEQUENCE	This calls up the PHRASE SEQUENCE settings screen.
TOOLS - MARK 1 - 4	This calls up the MARKER settings screen.
TOOLS - TRACK	This calls up the TRACK INFO screen.

In the Microscope screen:

SHIFT+VALUE:	Multiple data can be selected.
SHIFT + INC/+ (DEC/-):	Multiple data can be selected.
SHIFT + CURSOR (UP, Down):	Multiple data can be selected.

PLAY+VALUE:	Data where the cursor is positioned is output (continuous output).
PLAY + INC/+ (DEC/-):	Data where the cursor is positioned is output (continuous output).
PLAY + CURSOR (UP, Down):	Data where the cursor is positioned is output (continuous output).

* *If PLAY is not pressed, then the VALUE dial and the INC/+ (DEC/-) and CURSOR (UP, DOWN) buttons work on single selected data, and only the note data is output.*

SHIFT + F6 (VIEW SW)	This turns the display of the Note Map in the MICROSCOPE screen on and off.

In the Disk Utility (COPY, DELETE, MOVE, RENAME, FOLDER) file selection screen:

SHIFT+VALUE:	Multiple files can be selected.
SHIFT + INC/+ (DEC/-):	Multiple data can be selected.
SHIFT + CURSOR (UP, Down):	Multiple data can be selected.

In the View Sw screen (MICROSCOPE, SONG SELECT, CHAIN SONG SELECT, DISK UTILITY):

SHIFT+VALUE:	Selects the item to be set.

Error Message

Chain Empty!

Condition: The chain has no data in it, so it cannot be saved.
Action: Execute the save after first creating a chain.

Empty Pattern!

Condition: The Pattern has no data in it, so the Pattern Call message cannot be recorded in Step Recording.

Folder Name Duplicate!

Condition: A folder with the same name already exists.
Action: Change the folder name, then create the new folder.

CHAIN PLAY MODE

Condition: That operation cannot be carried out during Chain Play.
Action: Switch to Song Play mode (p. 27).

QUICK PLAY MODE

Condition: That operation cannot be carried out during Quick Play.
Action: Switch to Song Play mode (p. 27).

You Cannot Quick-Play S-MRC Song!

Condition: This is a SuperMRC song; it cannot be played back in Quick Play.
Action: Save this song in the MC-80 format before playback on the MC-80.

You Cannot Erase This Message!

Condition: This message cannot be erased.

You Cannot Copy This Message!

Condition: This message cannot be copied.

You Cannot Move This Message!

Condition: This message cannot be moved.

MIDI OFFLINE!

Condition: The MIDI IN connection has been cut.
Action: Check to see if there is anything wrong with the MIDI cable connected to the MC-80's MIDI IN connector or if the MIDI cable has become disconnected.

MIDI Communication Error!

Condition: There is an error in the MIDI hardware.
Action: Please contact Roland Service to order repairs.

REC PARAMETER ERROR!

This indicates a recording parameter error .
Condition: You are attempting to begin recording after a looped segment.
Action: You are attempting to begin recording within or before a looped segment.

SONG FORMAT ERROR!

Condition: This song is damaged.
Action: This song cannot be used.

SONG NOT FOUND!

Condition: The selected song cannot be found.

DISK NOT READY!

Condition: The disk required to execute this operation is not available.

DISK FULL!

Condition: All available space on the disk is in use.
Action: Either free up more disk space by deleting any unnecessary files from the disk, or prepare a new disk.

FILE NOT FOUND!

Condition: The file required to execute this operation cannot be found.

File/Folder Name Duplicate!

Condition: A file or folder with the same name already exists.
Action: Delete the file bearing the same name from the disk, and if overwriting and saving the data, merely save the file. If you do not want to delete the file with the same name from the disk, either save the file with a different name or save it to a different disk.

Improper Filename!

Condition: No name has been given to the file.
Action: Name the file before executing the operation.

FILE READ ERROR!

Condition: This file is damaged.
Action: This file cannot be used.

SYSTEM ERROR #1

Condition: The cause of the error is unknown.
Action: Please contact Roland Service to order repairs.

SYSTEM ERROR #2

Condition: The cause of the error is unknown.
Action: Please contact Roland Service to order repairs.

Data not found!

Condition: The data for placement is not specified.

Microscope Memory Full!

Condition: The data cannot be edited due to insufficient memory.
Action: Delete unneeded data or use other steps to free up more memory on the disk.

Movable onto Bar Line Only.

Condition: Beat Change events can be placed only on bar lines.

MIDI, Buffer Full!

Condition: Too much MIDI data is being transmitted to allow processing of the data to be completed.

DISK, Not Ready or Unavailable!

Condition: Some kind of error has occurred on the disk or the disk drive.
Action: Insert a different disk. If the error still occurs after exchanging the disk, please contact Roland Service to order repairs.

DISK, Not Initialized!

Condition: The disk has not been initialized for use with the MC-80.
Action: Initialize the disk.

DISK, Write Protected!

Condition: The disk is write-protected, preventing data from being written to the disk.
Action: Remove the write protection to use the disk, or prepare another disk without write protection.

Memory No Room!

Condition: Internal memory is full, preventing processing of the data.
Action: Use "Erase" (p. 67) or "Delete" (p. 68) in Track Edit, or other means to delete unneeded data, reducing the amount of data in the song.

IMPROPER DISK, This Disk is not for the MC-80.

Condition: The disk format is not one that can be used by the MC-80.
Action: Exchange the disk with one in a format that the MC-80 can use, or initialize the disk for use with the MC-80.

DISK, Read Error!

Condition: An error occurred during read of the disk.
Action: This disk cannot be used.

DISK, Write Error!

Condition: An error occurred during writing to the disk.
Action: This disk cannot be used.

PASSWORD PROTECTED, This Zip Disk is Protected by Password!

Condition: This disk is write-protected by password. The write protection cannot be removed with the MC-80.
Action: Either use the device with which the password protection was applied to remove the protection, or prepare a Zip disk that is not write-protected.

CHAIN STEP FULL

Condition: No more steps can be added to this chain.
Action: You can add new steps by deleting unneeded steps from the chain.

EMPTY PATTERN, Pattern xxx (xxxxxxxxxx) is Empty. You Cannot Edit This Pattern!

Condition: The Pattern has no data in it, so you cannot edit.

FILENAME DUPLICATE, FILE "(File Name)" Already Exists!

Condition: A file with the same name already exists.
Action: Delete the file bearing the same name from the disk, and if overwriting and saving the data, merely save the file. If you do not want to delete the file with the same name from the disk, either save the file with a different name or save it to a different disk.

CLEAR SONG, The Internal Song will be Cleared. "(Song Name)" (File Name) Are You Sure?

Condition: The internal song will be deleted. Is this O.K.?

DISK FORMAT, All the Data on the Disk "(Disk Name)" will be lost. Are You Sure?

Condition: All data on this disk will be deleted. Is this O.K.?
Formatting the Disk will Take Approximately 30 Minutes.
Action: Formatting the disk takes about thirty minutes.

LOAD SONG, "(Song Name)" "(File Name)" is not the Internal Song. Load anyway for xxxxx.

Condition: Loading of the song is required for executing that operation.

SHUTDOWN, Shutdown OK?

Condition: This starts preparations for turning off the power to the MC-80.

COPYRIGHT PROTECTED, Copyright Notice Exists.

Condition: The disk is protected by copyright, so the data cannot be saved as a Standard MIDI File.
Action: Save the data in the MC-80 format.

CLEAR CHAIN ALL STEPS, All the Chain Steps will be Cleared. Are You Sure?

Condition: All the chain steps will be cleared. Is this O.K.?

DELETE, The File(s)/Folder(s) will be Deleted. Are You Sure?

Condition: All files and folders will be deleted. Is this O.K.?

SYSEX MODIFIED, System Exclusive Message Was Modified. Select F1='CANCEL' or F6='WRITE'.

Condition: You attempted to close the window without finalizing a system exclusive message that you modified.
Action: To finalize the changes, press [F6(WRITE)]. To cancel without finalizing, [F1(CANCEL)].

Too Many Files in This Folder

Condition: The limit on the number of files that can be held in this folder has been exceeded.
Action: Either delete any unneeded files, or save the file to a different folder.

Too Many Folders in This Folder

Condition: The limit on the number of folders that can be held in this folder has been exceeded.
Action: Either delete any unneeded folders, or save the folder to a different folder.

Level Too Deep to Create Folder

Condition: The limit on the number of levels to which folders can be nested has been reached.
Action: Create the folder at a different level.

"You Cannot Use This Device!"

Cause: This SCSI device cannot be used.
Action: Use a Zip drive as the SCSI device.

About SCSI

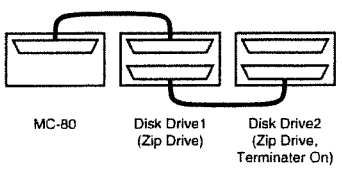
SCSI stands for Small Computer System Interface. It is a data transfer standard that allows large amounts of data to be sent and received. The MC-80 comes prepared with a SCSI connectors allowing you to connect external SCSI devices such as hard disks and Zip drives. This section describes the procedures and precautions taken when using these devices.

Disk drives are precision devices. If they are connected or used incorrectly, not only may they fail to operate correctly, but the data on the disk can be lost or, in the worst case, the disk drive itself may be damaged. Please be sure to read the manual for your disk drive.

* *A disk drive being used for the first time with the MC-80 must be initialized by the MC-80 (Owner's Manual p. 99). When a disk drive is initialized, all data on that disk drive is lost. Before using a disk drive that has been used by another device, make sure that it is all right to erase the data.*

About Connections

Up to 7 disk drives can be connected to the SCSI connector of the MC-80. Use SCSI cable to connect the disk drives, connecting as shown below. SCSI connectors are not distinguished by input and output ends, so you may attach either end of the cable to the devices. Devices connected in this fashion are referred to as a SCSI chain or daisy chain.



- The MC-80 features a DB-25 type connector (female). After checking your disk drive to see what kind of SCSI connector it uses, connect it with the appropriate cable.
- Keep SCSI cables as short as possible, and use only cables which have an impedance that is compatible with the SCSI standard (110Ω +/-10%), and that are completely shield.
- Do not allow the total length of all SCSI cables connecting the chain of disk drives to exceed 6.5 meters.
- Do not connect or disconnect SCSI cables when the power of any device is turned on.

About Terminators

To protect against return noise, the device at each end of a SCSI chain must have a terminating resistance. This is referred to as a terminator. Since the MC-80 is one end of the SCSI chain, its internal terminator is normally in effect. Connect a terminator only to the last external drive in the chain. There are two types of terminators, those that can be switched on and off (internal) and those that are attached using SCSI connections (externally attached). Select the method appropriate for the disk drive you are using.

- Your disk drive may feature a terminator switch that is normally left in the "On" position (i.e., the terminator is usually in effect). Use this type of device as the last piece in a daisy chain.
- Do not use double terminators. For example, don't attach an external terminator to a disk drive that already has and internal terminator.

Active Terminators

If you are using an external terminator, we recommend that you make it an active terminator. In this case, if you are using a disk drive that allows you to turn the power to the terminator on and off, be sure to turn this power on. For details on attaching an active terminator, refer to the owner's manual for your disk drive.

About SCSI ID Numbers

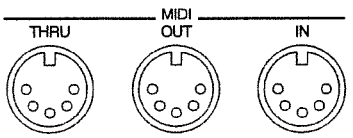
Each disk drive is distinguished by its SCSI ID number (0–7). This means that when two or more disk drives are connected, you must make settings so that the SCSI ID numbers of the disk drives do not conflict (coincide). If the SCSI ID numbers conflict, the MC-80 will not be able to correctly recognize the disk drives.

With the factory settings, the MC-80 is set to SCSI ID number 7. Set the disk drives you are connected to ID numbers other than 7.

About MIDI

MIDI means "Musical Instrument Digital Interface". By using MIDI you can play and/or control multiple instruments from a single MIDI controller, keyboard or sequencer, and is a world-wide standard, allowing communication between MIDI equipped instruments, no matter who manufactured them.

MIDI connectors



MIDI IN

This connector receives messages from external MIDI devices (keyboards, sequencers controllers etc.) to play the instruments or change its settings.

MIDI OUT

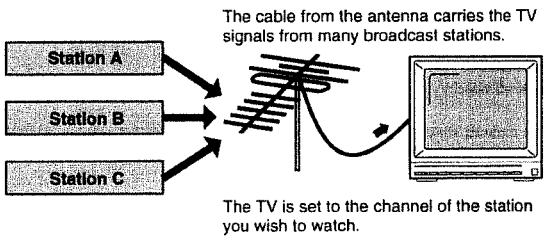
The MC-80 transmits musical data.

MIDI THRU

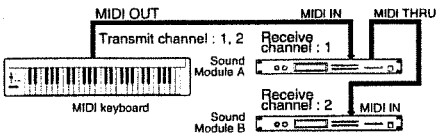
All messages received at MIDI IN are re-transmitted from this connector. This connector is used when you wish to transmit the same stream of MIDI data to other devices.

MIDI channels and multi-timbral sound sources

MIDI transmits many types of data over a single MIDI cable. This is made possible by the concept of MIDI channels which allow a device to distinguish the data that is or is not intended for it. In some ways, MIDI channels are similar to television channels. By changing the channel on a television set, you can view the programs that are being broadcast by different stations. In the same way, MIDI also allows a device to select the information intended for that device out of the variety of information that is being transmitted to it.


The cable from the antenna carries the TV signals from many broadcast stations.
Station A
Station B
Station C
The TV is set to the channel of the station you wish to watch.

MIDI uses sixteen channels; 1 through 16. Set the receiving device so that it will receive only the channel that it needs to receive. In the example below, the transmitting device is transmitting on channels 1 and 2, but sound module A has been set to receive only channel 1, and sound module B has been set to receive only channel 2. In this way, sound module A plays the guitar part and sound module B plays the bass part.



MIDI Implementation

Model : MC-80/80EX (Micro Composer)
Date: Jan.23. 1999
Version: 1.00

1. Data reception

- Input via the MIDI IN connector selected in the "MIDI SETUP" window (press [TOOLS] followed by [F3 (MIDI)] and then [F1 (SETUP)]).
- Input after changing to the currently selected track's MIDI channel set in "RecCh" in the "TRACK INFO" window (press [SEQUENCER] followed by [F6 (TRK INFO)]) (when set to "ALL," data is received unchanged through any channels received through the MIDI IN connector).

1.1 Messages recorded during recording

■ Channel Voice Messages

● Note Off

Status	2nd byte	3rd byte
8nH	kkH	vvH
9nH	kkH	00H
n=MIDI channel number	: 0H–FH (ch.1–ch.16)	
kk=note number	: 00H–7FH (0–127)	
vv=note off velocity	: 00H–7FH (0–127)	

- Not received when the Note parameter ("MIDI INPUT SWITCH" window/[TOOLS]-[F3 (MIDI)]-[F2 (INPUT SW)]) is OFF.

● Note on

Status	2nd byte	3rd byte
9nH	kkH	vvH
n=MIDI channel number	: 0H–FH (ch.1–ch.16)	
kk=note number	: 00H–7FH (0–127)	
vv=note on velocity	: 01H–7FH (1–127)	

- Not received when the Note parameter("MIDI INPUT SWITCH" window/[TOOLS]-[F3 (MIDI)]-[F2 (INPUT SW)]) is OFF.
- If Phrase Sequence is on (if the PHRASE SEQUENCE button is lit), Phrase Sequence controls including Start and Stop are functional when the notes set for the Pattern are received while in the "PHRASE SEQUENCE" window (press [SEQUENCER] followed by [F1 (SETUP)] and then [F3 (PHRASE)]).
- The Arpeggiator function is applied to the notes received when Arpeggiator is on (when the ARPEGGIATOR button is lit).

● Polyphonic Aftertouch

Status	2nd byte	3rd byte
AnH	kkH	vvH
n=MIDI channel number	: 0H–FH (ch.1–ch.16)	
kk=note number	: 00H–7FH (0–127)	
vv=Polyphonic Aftertouch	: 00H–7FH (0–127)	

- Not received when the Poly Af parameter("MIDI INPUT SWITCH" window/[TOOLS]-[F3 (MIDI)]-[F2 (INPUT SW)]) is OFF.

● Control Change

○ Bank select (Controller number 0, 32)

Status	2nd byte	3rd byte
BnH	00H	mmH
BnH	20H	llH
n=MIDI channel number	: 0H–FH (ch.1–ch.16)	
mm, ll=Bank number	: 00 00H–7F 7FH (bank.1–bank.16384)	

- Not received when the PC parameter("MIDI INPUT SWITCH" window/[TOOLS]-[F3 (MIDI)]-[F2 (INPUT SW)]) is OFF.

○ Modulation (Controller number 1)

Status	2nd byte	3rd byte
BnH	01H	vvH
n=MIDI channel number	: 0H–FH (ch.1–ch.16)	
vv=Modulation depth	: 00H–7FH (0–127)	

- Not received when the CC parameter("MIDI INPUT SWITCH" window/[TOOLS]-[F3 (MIDI)]-[F2 (INPUT SW)]) is OFF.
- Not received when the Mod parameter("MIDI INPUT SWITCH" window/[TOOLS]-[F3 (MIDI)]-[F2 (INPUT SW)]) is OFF.

○ Breath type (Controller number 2)

Status	2nd byte	3rd byte
BnH	02H	vvH
n=MIDI channel number	: 0H–FH (ch.1–ch.16)	
vv=control value	: 00H–7FH (0–127) 0-63=OFF, 64-127=ON	

- Not received when the CC parameter("MIDI INPUT SWITCH" window/[TOOLS]-[F3 (MIDI)]-[F2 (INPUT SW)]) is OFF.
- Not received when the Breath parameter("MIDI INPUT SWITCH" window/[TOOLS]-[F3 (MIDI)]-[F2 (INPUT SW)]) is OFF.

○ Foot type (Controller number 4)

Status	2nd byte	3rd byte
BnH	04H	vvH
n=MIDI channel number	: 0H–FH (ch.1–ch.16)	
vv=control value	: 00H–7FH (0–127)	

- Not received when the CC parameter("MIDI INPUT SWITCH" window/[TOOLS]-[F3 (MIDI)]-[F2 (INPUT SW)]) is OFF.
- Not received when the Foot parameter("MIDI INPUT SWITCH" window/[TOOLS]-[F3 (MIDI)]-[F2 (INPUT SW)]) is OFF.

○ Data Entry (Controller number 6, 38)

Status	2nd byte	3rd byte
BnH	06H	mmH
BnH	26H	llH
n=MIDI channel number	: 0H–FH (ch.1–ch.16)	
mm, ll=the value of the parameter specified by RPN/NRPN		
mm=MSB, ll=LSB		

- Not received when the CC parameter("MIDI INPUT SWITCH" window/[TOOLS]-[F3 (MIDI)]-[F2 (INPUT SW)]) is OFF.
- Not received when the RPN/NRPN parameter("MIDI INPUT SWITCH" window/[TOOLS]-[F3 (MIDI)]-[F2 (INPUT SW)]) is OFF.

○ Volume (Controller number 7)

Status	2nd byte	3rd byte
BnH	07H	vvH
n=MIDI channel number	: 0H–FH (ch.1–ch.16)	
vv=Volume	: 00H–7FH (0–127)	

- Not received when the CC parameter("MIDI INPUT SWITCH" window/[TOOLS]-[F3 (MIDI)]-[F2 (INPUT SW)]) is OFF.
- Not received when the Volume parameter("MIDI INPUT SWITCH" window/[TOOLS]-[F3 (MIDI)]-[F2 (INPUT SW)]) is OFF.

○ Panpot (Controller number 10)

Status	2nd byte	3rd byte
BnH	0AH	vvH
n=MIDI channel number	: 0H–FH (ch.1–ch.16)	
vv=Panpot	: 00H–40H–7FH (left–center–right)	

- Not received when the CC parameter("MIDI INPUT SWITCH" window/[TOOLS]-[F3 (MIDI)]-[F2 (INPUT SW)]) is OFF.
- Not received when the Pan parameter("MIDI INPUT SWITCH" window/[TOOLS]-[F3 (MIDI)]-[F2 (INPUT SW)]) is OFF.

○ Expression (Controller number 11)

Status	2nd byte	3rd byte
BnH	0BH	vvH
n=MIDI channel number	: 0H–FH (ch.1–ch.16)	
vv=Expression	: 00H–7FH (0–127)	

- Not received when the CC parameter("MIDI INPUT SWITCH" window/[TOOLS]-[F3 (MIDI)]-[F2 (INPUT SW)]) is OFF.
- Not received when the Exp parameter("MIDI INPUT SWITCH" window/[TOOLS]-[F3 (MIDI)]-[F2 (INPUT SW)]) is OFF.

○ Hold1 (Controller number 64)

Status	2nd byte	3rd byte
BnH	40H	vvH
n=MIDI channel number	: 0H–FH (ch.1–ch.16)	
vv=control value	: 00H–7FH (0–127) 0-63=OFF, 64-127=ON	

- Not received when the CC parameter("MIDI INPUT SWITCH" window/[TOOLS]-[F3 (MIDI)]-[F2 (INPUT SW)]) is OFF.
- Not received when the Hold parameter("MIDI INPUT SWITCH" window/[TOOLS]-[F3 (MIDI)]-[F2 (INPUT SW)]) is OFF

❍ Sostenuto (Controller number 66)

Status	2nd byte	3rd byte
BnH	42H	vvH

n=MIDI channel number : 0H–FH (ch.1–ch.16)
vv=control value : 00H–7FH (0–127) 0-63=OFF, 64-127=ON

* Not received when the CC parameter("MIDI INPUT SWITCH" window/[TOOLS]-[F3 (MIDI)]-[F2 (INPUT SW)]) is OFF.
* Not received when the Soft parameter("MIDI INPUT SWITCH" window/[TOOLS]-[F3 (MIDI)]-[F2 (INPUT SW)]) is OFF.

❍ Soft (Controller number 67)

Status	2nd byte	3rd byte
BnH	43H	vvH

n=MIDI channel number : 0H–FH (ch.1–ch.16)
vv=control value : 00H–7FH (0–127) 0-63=OFF, 64-127=ON

* Not received when the CC parameter("MIDI INPUT SWITCH" window/[TOOLS]-[F3 (MIDI)]-[F2 (INPUT SW)]) is OFF.
* Not received when the Soft parameter("MIDI INPUT SWITCH" window/[TOOLS]-[F3 (MIDI)]-[F2 (INPUT SW)]) is OFF.

❍ Effect1–5 (Controller number 91–95)

Status	2nd byte	3rd byte
BnH	kkH	vvH

n=MIDI channel number : 0H–FH (ch.1–ch.16)
kk=control number : 5BH–5FH (91–95)
vv=Effect Level : 00H–7FH (0–127)

* Not received when the CC parameter("MIDI INPUT SWITCH" window/[TOOLS]-[F3 (MIDI)]-[F2 (INPUT SW)]) is OFF.
* Not received when the Effect parameter("MIDI INPUT SWITCH" window/[TOOLS]-[F3 (MIDI)]-[F2 (INPUT SW)]) is OFF.

❍ NRPN MSB/LSB (Controller number 98, 99)

Status	2nd byte	3rd byte
BnH	63H	mmH
BnH	62H	llH

n=MIDI channel number : 0H–FH (ch.1–ch.16)
mm=the value of the parameter specified by NRPN
ll=LSB of the parameter number specified by NRPN

* Not received when the CC parameter("MIDI INPUT SWITCH" window/[TOOLS]-[F3 (MIDI)]-[F2 (INPUT SW)]) is OFF.
* Not received when the RPN/NRPN parameter("MIDI INPUT SWITCH" window/[TOOLS]-[F3 (MIDI)]-[F2 (INPUT SW)]) is OFF.

❍ RPN MSB/LSB (Controller number 100, 101)

Status	2nd byte	3rd byte
BnH	65H	mmH
BnH	64H	llH

n=MIDI channel number : 0H–FH (ch.1–ch.16)
mm=the value of the parameter specified by RPN
ll=LSB of the parameter number specified by RPN

* Not received when the CC parameter("MIDI INPUT SWITCH" window/[TOOLS]-[F3 (MIDI)]-[F2 (INPUT SW)]) is OFF.
* Not received when the RPN/NRPN parameter("MIDI INPUT SWITCH" window/[TOOLS]-[F3 (MIDI)]-[F2 (INPUT SW)]) is OFF.

❍ Control Changes Other Than Those Above

Status	2nd byte	3rd byte
BnH	kkH	vvH

n=MIDI channel number : 0H–FH (ch.1–ch.16)
kk=Control number : 00H–78H (0–120)
vv=value : 00H–7FH (0–127)

* Not received when the CC parameter("MIDI INPUT SWITCH" window/[TOOLS]-[F3 (MIDI)]-[F2 (INPUT SW)]) is OFF.

● Program Change

Status	2nd byte
CnH	ppH

n=MIDI channel number : 0H–FH (ch.1–ch.16)
pp=Program number : 00H–7FH (prog.1–prog.128)

* Not received when the PC parameter("MIDI INPUT SWITCH" window/[TOOLS]-[F3 (MIDI)]-[F2 (INPUT SW)]) is OFF.

● Channel Aftertouch

Status	2nd byte
DnH	vvH

n=MIDI channel number : 0H–FH (ch.1–ch.16)
vv=Channel Aftertouch : 00H–7FH (0–127)

* Not received when the Ch Af parameter("MIDI INPUT SWITCH" window/[TOOLS]-[F3 (MIDI)]-[F2 (INPUT SW)]) is OFF.

● Pitch Bend Change

Status	2nd byte	3rd byte
EnH	llH	mmH

n=MIDI channel number : 0H–FH (ch.1–ch.16)
mm, ll=Pitch Bend value : 00 00H–40 00H–7F 7FH (-8192–0–+8191)

* Not received when the P.Bend parameter ("MIDI INPUT SWITCH" window/[TOOLS]-[F3 (MIDI)]-[F2 (INPUT SW)]) is OFF.

■ Channel Mode messages

● All Sound Off (Controller number 120)

Status	2nd byte	3rd byte
BnH	78H	00H

n=MIDI channel number : 0H–FH (ch.1–ch.16)

● Reset All Controller (Controller number 121)

Status	2nd byte	3rd byte
BnH	79H	00H

n=MIDI channel number : 0H–FH (ch.1–ch.16)

● Omni Off (Controller number 124)

Status	2nd byte	3rd byte
BnH	7CH	00H

n=MIDI channel number : 0H–FH (ch.1–ch.16)

* The same processing will be done as when an All Note Off message is received.

● Omni On (Controller number 125)

Status	2nd byte	3rd byte
BnH	7DH	00H

n=MIDI channel number : 0H–FH (ch.1–ch.16)

* The same processing will be done as when an All Note Off message is received.

● Mono (Controller number 126)

Status	2nd byte	3rd byte
BnH	7EH	mmH

n=MIDI channel number : 0H–FH (ch.1–ch.16)
mm=mono number : 00H–10H (0–16)

* The same processing will be done as when an All Note Off message is received.

● Poly (Controller number 127)

Status	2nd byte	3rd byte
BnH	7FH	00H

n=MIDI channel number : 0H–FH (ch.1–ch.16)

* The same processing will be done as when an All Note Off message is received.

■ System Exclusive Messages

satatus	Data byte	status
F0H	iiH, ddH, ..., eeH	F7H

F0H: System Exclusive message status
ii=ID number: This is the ID number (manufacturer ID) that specifies the manufacturer whose exclusive message this is. Roland's manufacturer ID is 41H. ID numbers 7EH and 7FH are defined in an expansion of the MIDI standard as Universal Non-real-time messages (7EH) and Universal Realtime Messages (7FH).
dd,..., ee = data: 00H–7FH (0–127)
F7H: EOX (End of System Exclusive)

* Not received when the SysEx parameter ("MIDI INPUT SWITCH" window/[TOOLS]-[F3 (MIDI)]-[F2 (INPUT SW)]) is OFF.
* MIDI Machine Control and MIDI Time code is not recorded.(Refer to "1.3 Messages

acknowledged for synchronization")

1.2 Messages not recorded during recording

■ Channel mode messages

● Local On/Off (Controller number 122)

Status	2nd byte	3rd byte
BnH	7AH	vvH

n=MIDI channel number : 0H–FH (ch.1–ch.16)
vv=Value : 00H, 7FH (Local Off, Local On)

● All notes off (Controller number 123)

Status	2nd byte	3rd byte
BnH	7BH	00H

n=MIDI channel number : 0H–FH (ch.1–ch.16)

* When an All Note Off message is received, all notes of the corresponding channel that are on will be sent Note Off's, and the resulting Note Off messages will be recorded.

1.3 Messages acknowledged for synchronization

■ System Common messages

● Tune Request

Status
F6H

● MIDI Time Code Quarter Frame Messages

MIDI Time Code Quarter Frame Messages can be transmitted while the MC-80 is running (Playing or Recording) if the SYSTEM parameter "Mode" is "Master" and "MTC Sync out" is "OUT1" or "OUT2" in the SYSTEM parameter. The transmitted time counts are summed to "MTC Offset Time" as the song top is "00:00:00:00".
The MC-80 synchronizes with the time counts which are summed to "MTC Offset Time" as the song top is "00:00:00:00" if the SYSTEM parameter "Mode" is "Slave (MTC)."

Status	Second
F1H	mmH (= 0nnndddd)

nnn = Message type :
0 = Frame count LS nibble
1 = Frame count MS nibble
2 = Seconds count LS nibble
3 = Seconds count MS nibble
4 = Minutes count LS nibble
5 = Minutes count MS nibble
6 = Hours count LS nibble
7 = Hours count MS nibble
dddd = 4 bit nibble data : h–FH (0–15)

Bit Field is assigned as follows.

Frame Count xxxyyyyy

xxx	Reserved (000)
yyyyy	Frame No.(0-29)

Seconds Count xxyyyyyy

xx	Reserved (00)
yyyyyy	Seconds (0-59)

Minutes Count xxyyyyyy

xx	Reserved (00)
yyyyyy	Minutes (0-59)

Hours Count xyyzzzzz

x	Reserved (0)
yy	Time Code type
	0 = 24 Frames / Sec
	1 = 25 Frames / Sec
	2 = 30 Frames / Sec (Drop Frame)
	3 = 30 Frames / Sec (Non Drop Frame
zzzzz	Hours (0-23)

● Song Position Pointer

Status	2nd byte	3rd byte
F2H	mmH	llH

mm, ll=value: 00 00H–7F 7FH (0–16383)

■ System Realtime Messages

● Timing Clock

status
F8H

* Received when "Mode" in the SYNC window (press [TOOLS] followed by [F3 (MIDI)] and then [F3 (SYNC)]) is set to "Master."

● Start

status
FAH

* Received when "Mode" in the SYNC window (press [TOOLS] followed by [F3 (MIDI)] and then [F3 (SYNC)]) is set to "Master" or "Remote."

● Continue

status
FBH

* Received when "Mode" in the SYNC window (press [TOOLS] followed by [F3 (MIDI)] and then [F3 (SYNC)]) is set to "Master" or "Remote."

● Stop

status
FCH

* Received when "Mode" in the SYNC window (press [TOOLS] followed by [F3 (MIDI)] and then [F3 (SYNC)]) is set to "Master" or "Remote."

■ System Exclusive Message

● MIDI Machine Control (MMC)

* Received when the MMC Mode parameter ("MIDI INPUT SWITCH" window/[TOOLS]-[F3 (MIDI)]-[F3 (SYNC)]) is Slave.

○ STOP (MCS)

status	Data byte	status
F0H	7FH, dev, 06H, 01H	F7H

Byte	Remarks
F0H	Exclusive status
7FH	Universal System Exclusive Realtime Header
7FH	Device ID
06H	MMC command message
01H	STOP (MCS)
F7H	EOX (End of Exclusive)

○ DEFERRED PLAY (MCS)

status	Data byte	status
F0H	7FH, dev, 06H, 03H	F7H

Byte	Remarks
F0H	Exclusive status
7FH	Universal System Exclusive Realtime Header
7FH	Device ID
06H	MMC command message
03H	DEFERRED PLAY (MCS)
F7H	EOX (End of Exclusive)

○ LOCATE (MCP)

• Format2—LOCATE [TARGET]

status	Data byte	status
F0H	7FH, dev, 06H, 44H, 06H, 01H, hrH, mnH, scH, frH, ffH	F7H

Byte	Remarks
F0H	Exclusive status
7FH	Universal System Exclusive Realtime Header
7FH	Device ID
06H	MMC command message
44H	LOCATE (MCP)
06H	Byte count
01H	"TARGET"sub-Command
hrH	Standard Time Specification with subframes (type|ffl)
mnH	
scH	
frH	
ffH	
F7H	EOX (End of Exclusive)

1.4 Messages Appearing When MIDI Connection Errors Are Detected

■ System Realtime Message

● Active Sensing

status
FEH

* When an Active Sensing message is received, the unit will begin monitoring the interval at which MIDI messages are received. During monitoring, if more than 420ms passed without a message being received, Playing or Recording will be stopped.

2 Data transmission

2.1 Messages transmitted during playing

* Data is sent via the MIDI OUT connector selected in "MIDI OUT" in the "MIDI SETUP" window (press [TOOLS] followed by [F3 (MIDI)] and then [F1 (SETUP)]).

* Send by switching to the MIDI connector set in "Out" in the "TRACK INFO" window (press [SEQUENCER] followed by [F6 (TRK INFO)]) that is used for the currently selected track. In this case, no signals are output if a connector that is not selected in "MIDI OUT" in the "MIDI SETUP" window is specified.

2.2 Soft Thru setting

Messages (except System Common and System Realtime Messages) that are received are then sent out when Soft Thru (press [TOOLS] followed by [F3 (MIDI)] and then [F1 (SETUP)]) is switched to ON.

2.3 Messages that are generated and transmitted

2.3.1 Messages Appearing When Synchronizing with Other Devices

■ System Common Messages

* Sent when "Mode" in the SYNC window (press [TOOLS] followed by [F3 (MIDI)] and then [F3 (SYNC)]) is set to "Slave (MIDI)."

● Song Position Pointer

Status	2nd byte	3rd byte
F2H	mmH	llH

mm, ll=value: 00 00H–7F 7FH (0–16383)

■ System Realtime Messages

* Data is sent via the MIDI OUT connector selected in "MIDI Sync Out" in the "SYNC" window (press [TOOLS] followed by [F3 (MIDI)] and then [F3 (SYNC)]).

● Timing Clock

status
F8H

● Start

status
FAH

● Continue

status
FBH

● Stop

status
FCH

● Quarter Frame Messages

Status	2nd byte
F1H	mmH (= 0nnndddd)

* Sent when "Mode" in the SYNC window (press [TOOLS] followed by [F2 (MIDI)] and then [F3 (SYNC)]) is set to "Master" and "MTC Sync out" is set to "OUT1" or "OUT2." Furthermore, sending a Quarter Frame Message with "00h00m00s00f00" at the beginning of the song adds the "MTC Offset Time" in the SYNC window (press [TOOLS] followed by [F2 (MIDI)] and then [F3 (SYNC)]).
* Data is sent via the MIDI OUT connector selected in "MIDI Sync Out" in the "SYNC" window (press [TOOLS] followed by [F3 (MIDI)] and then [F3 (SYNC)]).

■ System Exclusive Message

● MIDI Time code

○ Full Message

Full Messages are used, which encode the complete time into a single message.
This message transmitted when the song position moves.

Status	Data Byte	Status
F0H, 7FH xxH, 01H, 01H, hrH, mnH, scH, frH		F7H

F0H, 7FH : Realtime Universal System Exclusive Header
xxH : 7F (Device ID)
01H : sub-ID #1 (MIDI Time code)
01H : sub-ID #2 (Full Message)
hrH : hours and type: 0 yy zzzzz
yy type:
00 = 24 Flame/sec
01 = 25 Flame/sec
10 = 30 Flame/sec
11 = 30 Flame/sec
zzzzz : Hours (00–23)
mnH : Minutes (00–59)
scH : Seconds (00–59)
frH : Frames (00–29)
F7H : EOX (End of Exclusive)

● MIDI Machine Control (MMC)

* Not received when the MMC Mode parameter ("SYNC" window/[TOOLS]-[F3 (MIDI)]-[F3 (SYNC)]) is Master.
* Data is sent via the MIDI OUT connector selected in "MIDI Sync Out" in the "SYNC" window (press [TOOLS] followed by [F3 (MIDI)] and then [F3 (SYNC)]).

○ STOP (MCS)

satatus	Data byte	status
F0H	7FH, dev, 06H, 01H	F7H

Byte	Remarks
F0H	Exclusive status
7FH	Universal System Exclusive Realtime Header
7FH	Device ID
06H	MMC command message
01H	STOP (MCS)
F7H	EOX (End of Exclusive)

○ DEFFERRED PLAY (MCS)

satatus	Data byte	status
F0H	7FH, dev, 06H, 03H	F7H

Byte	Remarks
F0H	Exclusive status
7FH	Universal System Exclusive Realtime Header
7FH	Device ID
06H	MMC command message
03H	DEFERRED PLAY (MCS)
F7H	EOX (End of Exclusive)

○ LOCATE (MCP)

• Format2—LOCATE [TARGET]

status	Data byte	status
F0H	7FH, dev, 06H, 44H, 06H, 01H, hrH, mnH, scH, frH, ffH	F7H

Byte	Remarks
F0H	Exclusive status
7FH	Universal System Exclusive Realtime Header
7FH	Device ID
06H	MMC command message
44H	LOCATE (MCP)
06H	Byte count
01H	"TARGET" sub-Command
hrH	Standard Time Specification with subframes (type[ff])
mnH	
scH	
frH	
ffH	
F7H	EOX (End of Exclusive)

2.3.2 Fade-Out Messages

■ System Exclusive Messages

● Universal Realtime System Exclusive Messages

○ Master Volume

status	Data byte	status
F0H	7FH, 7FH, 04H, 01H, llH, mmH	F7H

Byte	Remarks
F0H	Exclusive status
7FH	Universal System Exclusive Realtime Header
7FH	Device ID (Broadcast)
04H	sub ID#1 (Device Control messages)
01H	sub ID#2 (Master Volume)
llH	Master Volume MSB
mmH	Master Volume LSB
F7H	EOX (End of Exclusive)

* The Master Volume's lowest byte (llH) is processed as "00H."
* When using fading out (press [SHIFT] and [END]), the volume sent decreases from 127 to 0.

2.3.3 Messages Appearing When Confirming Connections with Other Devices

■ System Realtime Messages

○ Active Sensing

status
FEH

* Transmitted at intervals of apporoximately 250ms

2.3.4 Messages Generated by Panel Operations

○ GS Reset

Status	Data Byte	Status
F0H	41H, 10H, 42H, 12H, 40H, 00H, 7FH, 00H, 41	F7H

* Receiving this message, all the parameters are set to the GS default setting, and can receive GS MIDI data correctly. Rx.NRPN and, Rx. BANK SELECT in the Exclusive message map is set to ON by receiving "GS Reset."
* Execution time of this message is approx. 50ms. Avoid sending the next message during this execution time.

○ GM System On

Status	Data Byte	Status
F0H	7EH, 7FH, 09H, 01H	F7H

* Receiving this message, all the parameters are set to the General MIDI Level 1 default setting even if in the any mode, and can receive General MIDI score level 1 correctly. Rx.NRPN and, Rx. BANK SELECT in the Exclusive message map is set to ON by receiving "GM System On."
* Execution time of this message is approx. 50ms. Avoid sending the next message during this execution time.

○ This message transmitted when the "PANIC" feature is used.

•Hold1 (Controller number 64)

Status	2nd byte	3rd byte
BnH	40H	vvH

n=MIDI channel number : 0H–FH (ch.1–ch.16)
vv=control value : 00H–7FH (0–127) 0-63=OFF, 64-127=ON

* Not received when the CC parameter ("MIDI INPUT SWITCH" window/[TOOLS]-[F3 (MIDI)]-[F2 (INPUT SW)]) is OFF.
* Not received when the Hold parameter ("MIDI INPUT SWITCH" window/[TOOLS]-[F3 (MIDI)]-[F2 (INPUT SW)]) is OFF.

•All notes off (Controller number 123)

Status	2nd byte	3rd byte
BnH	7BH	00H

n=MIDI channel number : 0H–FH (ch.1–ch.16)

3 Appendices

3.1 Decimal and Hexadecimal table

(Hexadecimal number is shown with H.)

In MIDI documentation, data values and addresses/sizes of system exclusive messages etc. are expressed as hexadecimal values for each 7 bits. The following table shows how these correspond to decimal numbers.

dec	hex	dec	hex	dec	hex	dec	hex
0	00H	32	20H	64	40H	96	60H
1	01H	33	21H	65	41H	97	61H
2	02H	34	22H	66	42H	98	62H
3	03H	35	23H	67	43H	99	63H
4	04H	36	24H	68	44H	100	64H
5	05H	37	25H	69	45H	101	65H
6	06H	38	26H	70	46H	102	66H
7	07H	39	27H	71	47H	103	67H
8	08H	40	28H	72	48H	104	68H
9	09H	41	29H	73	49H	105	69H
10	0AH	42	2AH	74	4AH	106	6AH
11	0BH	43	2BH	75	4BH	107	6BH
12	0CH	44	2CH	76	4CH	108	6CH
13	0DH	45	2DH	77	4DH	109	6DH
14	0EH	46	2EH	78	4EH	110	6EH
15	0FH	47	2FH	79	4FH	111	6FH
16	10H	48	30H	80	50H	112	70H
17	11H	49	31H	81	51H	113	71H
18	12H	50	32H	82	52H	114	72H
19	13H	51	33H	83	53H	115	73H
20	14H	52	34H	84	54H	116	74H
21	15H	53	35H	85	55H	117	75H
22	16H	54	36H	86	56H	118	76H
23	17H	55	37H	87	57H	119	77H
24	18H	56	38H	88	58H	120	78H
25	19H	57	39H	89	59H	121	79H
26	1AH	58	3AH	90	5AH	122	7AH
27	1BH	59	3BH	91	5BH	123	7BH
28	1CH	60	3CH	92	5CH	124	7CH
29	1DH	61	3DH	93	5DH	125	7DH
30	1EH	62	3EH	94	5EH	126	7EH
31	1FH	63	3FH	95	5FH	127	7FH

* Decimal values such as MIDI channel, bank select, and program change are listed as one (1) greater than the values given in the above table.
* A 7-bit byte can express data in the range of 128 steps. For data where greater precision is required, we must use two or more bytes. For example, two hexadecimal numbers aa bbH expressing two 7-bit bytes would indicate a value of aa x 128 + bb.
* In the case of values which have a ± sign, 00H = -64, 40H = ±0, and 7FH = +63, so that the decimal expression would be 64 less than the value given in the above chart. In the case of two types, 00 00H = -8192, 40 00H = ±0, and 7F 7FH = +8191.
* Data marked "nibbled" is expressed in hexadecimal in 4-bit units. A value expressed as a 2-byte nibble 0a 0bH has the value of a x 16 + b.

<Ex.1> What is 5AH in decimal system?
5AH = 90 according to the above table.

<Ex.2>What in decimal system is 12034H in hexadecimal of every 7 bit?
12H = 18, 34H = 52 according to the above table. So 18 x 128 + 52 = 2356.

<Ex.3> What in decimal system is 0A 03 09 0D in nibble system?
0AH = 10, 03H = 3, 09H = 9, 0DH = 13 according to the table.
So ((10 x 16 + 3) x 16 + 9) x 16 + 13 = 41885.

<Ex. 4> What in nibble system is 1258 in decimal system?

16)1258
16) 78 ... 10
16) 4 ... 14
0 ... 4

0 = 00H, 4 = 04H, 14 = 0EH, 10 = 0AH according to the table. So it is 00 04 0E 0AH.

3.2 Examples of actual MIDI messages

<Example 1> 92 3E 5F

9n is the Note On status and 'n' is the MIDI channel number. Since 2H = 2, 3EH = 62, and 5FH = 95, this is a Note On message of MIDI CH = 3, note number 62 (note name D4) and velocity 95.

<Example 2> CE 49

CnH is the Program Change status and 'n' is the MIDI channel number. Since EH = 14, and 49H = 73, this is a Program Change message of MIDI CH = 15, Program number 74 (in the GS sound map, Flute).

<Example 3> EA 00 28

EnH is the Pitch Bend Change status and 'n' is the MIDI channel number. The 2nd byte (00H=0) is the LSB of the Pitch Bend value, and the 3rd byte (28H=40) is the MSB. However since the Pitch Bend is a signed number with 0 at 40 00H (= 64 x 128 + 0 = 8192), the Pitch Bend value in this case is

28 00H–40 00H = 40 x 128 + 0–(64 x 128 + 0) = 5120–8192 = -3072

If we assume that the Pitch Bend Sensitivity is set to two semitones, the pitch will change only -200 cents for a Pitch Bend value of -8192 (00 00H). Thus, this message is specifying a Pitch Bend of -200 x (-3072) ÷ (-8192) = -75 cents on MIDI CH = 11.

<Example 4> B3 64 00 65 00 06 0C 26 00 64 7F 65 7F

BnH is the Control Change status, and 'n' is the MIDI channel number. In Control Change messages, the 2nd byte is the controller number, and the 3rd byte is the parameter value. MIDI allows what is known as "running status," when if messages of the the same status follow each other, it is permitted to omit the second and following status bytes. In the message above, running status is being used, meaning that the message has the following content.

B3 64 00	MIDI CH = 4, RPN parameter number LSB	: 00H
(B3) 65 00	MIDI CH = 4, RPN parameter number MSB	: 00H
(B3) 06 0C	MIDI CH = 4, parameter value MSB	: 0CH
(B3) 26 00	MIDI CH = 4, parameter value LSB	: 00H
(B3) 64 7F	MIDI CH = 4, RPN parameter number LSB	: 7FH
(B3) 65 7F	MIDI CH = 4, RPN parameter number MSB	: 7FH

Thus, this message transmits a parameter value of 0C 00H to RPN parameter number 00 00H on MIDI CH = 4, and then sets the RPN parameter number to 7F 7FH.

The function assigned to RPN parameter number 00 00H is Pitch Bend Sensitivity, and the MSB of the parameter value indicates semitone steps. Since the MSB of this parameter value is 0CH = 12, the maximum width of pitch bend is being set to ±12 semitones (1 octave) (GS sound sources ignore the LSB of Pitch Bend Sensitivity, but it is best to transmit the LSB (parameter value 0) as well, so that the message can be correctly received by any device.

Once the parameter number has been set for RPN or NRPN, all subsequent Data Entry messages on that channel will be effective. Thus, it is recommended that after you have made the change you want, you set the parameter number to 7F 7FH (an "unset" or "null" setting). The final (B3) 64 7F (B3) 65 7F is for this purpose.

It is not a good idea to store many events within the data of a song (e.g., a Standard MIDI File song) using running status as shown in <Example 4>. When the song is paused, fast-forwarded or rewound, the sequencer may not be able to transmit the proper status, causing the sound source to misinterpret the data. It is best to attach the proper status byte to all events.

It is also important to transmit RPN or NRPN parameter number settings and parameter values in the correct order. In some sequencers, data events recorded in the same clock (or a nearby clock) can sometimes be transmitted in an order other than the order in which they were recorded. It is best to record such events at an appropriate interval (1 tick at TPQN=96, or 5 ticks at TPQN=480).

* TPQN : Ticks Per Quarter Note (i.e., the time resolution of the sequencer)

3.3 Example of an Exclusive message and calculating a Checksum

Roland Exclusive messages (RQ1, DT1) are transmitted with a checksum at the end (before F7) to make sure that the message was correctly received. The value of the checksum is determined by the address and data (or size) of the transmitted exclusive message.

How to calculate the checksum (hexadecimal numbers are indicated by 'H')
The checksum is a value derived by adding the address, size and checksum itself and inverting the lower 7 bits.
Here's an example of how the checksum is calculated. We will assume that in the exclusive message we are transmitting, the address is aa bb ccH and the data or size is dd ee ffH.

aa+bb+cc+dd+ee+ff = sum
sum ÷ 128 = quotient ... remainder
128–remainder = checksum

<Example 1> Setting REVERB MACRO to ROOM 3

According to the "Parameter Address Map," the REVERB MACRO Address is 40 01 30H, and ROOM 3 is a value of 02H. Thus,

F0 41 10 42 12 40 01 30 02 ?? F7
(1) (2) (3) (4) (5) address data checksum (6)

(1) Exclusive Status, (2) ID (Roland), (3) Device ID (17),
(4) Model ID (GS), (5) Command ID (DT1), (6) End of Exclusive

Next we calculate the checksum.

40H+01H+30H+02H = 64+1+48+2 = 115 (sum)
115 (sum) ÷ 128 = 0 (quotient) ... 115 (remainder)
checksum = 128–115 (remainder) = 13 = 0DH

This means that F0 41 10 42 12 40 01 30 02 0D F7 is the message we transmit.

<Example 2> Requesting transmission of the LEVEL for DRUM MAP 1 NOTE NUMBER 75 (D#5; Claves)

NOTE NUMBER 75 (D#5) is 4BH in hexadecimal.
According to the "Parameter Address Map," LEVEL of NOTE NUMBER 75 (D#5; Claves) in DRUM MAP 1 has an Address of 41 02 4BH and a Size of 00 00 01H. Thus,

F0 41 10 42 11 41 02 4B 00 00 01 ?? F7
(1) (2) (3) (4) (5) address size checksum (6)

(1) Exclusive Status, (2) ID (Roland), (3) Device ID (17),
(4) Model ID (GS), (5) Command ID(RQ1), (6) End of Exclusive

Next we calculate the checksum.

41H+02H+4BH+00H+00H+01H = 65+2+75+0+0+1 = 143 (sum)
143 (sum) ÷ 128 = 1 (quotient) ... 15 (remainder)
checksum = 128–15 (remainder) = 113 = 71H

This means that F0 41 10 42 11 41 02 4B 00 00 01 71 F7 is the message we transmit.

MICRO COMPOSER

Model MC-80/80EX

MIDI Implementation Chart

Date : Jan. 23, 1999

Version : 1.00

Function...		Transmitted	Recognized	Remarks
Basic Channel	Default	All channel	All channnel	There is no specific basic channel.
	Changed	X	1 — 16	
Mode	Default	X	X	
	Messages	X	X	
	Altered	**********		
Note Number :	True Voice	0 — 127 **********	0 — 127 0 — 127	
Velocity	Note ON	O	O	
	Note OFF	O	O	
After Touch	Key's	O	O *1	
	Ch's	O	O *1	
Pitch Bend		O	O *1	
Control Change	0, 32	O	O *1	Bank Select
	1	O	O *1	Modulation
	2	O	O *1	Breath Type
	4	O	O *1	Foot Type
	6, 38	O	O *1	Data Entry
	7	O	O *1	Volume
	10	O	O *1	Panpot
	11	O	O *1	Expression
	64	O	O *1	Hold1
	66	O	O *1	Sostenute
	67	O	O *1	Soft
	91 - 95	O	O *1	Effects 1 - 5
	98, 99	O	O *1	NRPN LSB,MSB
	100, 101	O	O *1	RPN LSB,MSB
	0 - 119	O	O *1	Other Message
Program Change	: True #	O **********	O *1 0 — 127	
System Exclucive		O	O *1	
System Common	: Quarter Flames	O	O	
	: Song Pos	O	O *2	
	: Song Sel	O	O *1	
	: Tune	O	O	
System Real Time	: Clock	O *1	O *1	
	: Commands	O *1	O *1	
Aux Message	: All Sound Off	O	O	
	: Reset all controllers	O	O	
	: Local ON/OFF	X *2	X	
	: All Notes OFF	O *3	O (123 — 127) *3	
	: Active Sense	O	O	
	: Sysyem Reset	X	X	
Notes		*1 O X is selectable. *2 Not stored/transmitted when received, but can be created and transmitted using Microscope. *3 Mode Messages (123 – 127) are recorded and transmitted, after all currently sounding notes are turned off. The All Note Message itself is not recorded or transmitted. However, it can be created in Microscope and transmitted.		

Mode 1 : OMNI ON, POLY
Mode 2 : OMNI ON, MONO
Mode 3 : OMNI OFF, POLY
Mode 4 : OMNI OFF, MONO

O : Yes
X : No

Glossary

This contains descriptions and explanations of terms used in this manual.

Arpeggiator

This is a function that performs arpegggios at preselected rhythms when chords or notes on the keyboard are held. This makes it possible for the player to perform rapid Phrases and idiosyncratic rhythms, without having to play difficult rhythms manually.

Undo/Redo

This function undoes, or retracts the recording or editing processes that have been executed. Not only does this function allow the player to delete material, it is also convenient for comparing conditions before and after a process is executed.

Expansion Board

The VE-GS Pro (internal sound generator module) is a device installed in the MC-80 to expand its functions. It can be used after being inserted in the slot in the MC-80's underside (although an optional accessory to the MC-80, it is provided with MC-80EX).

Sound Generator (Sound Module)

This is an electronic musical instrument that produces the sounds of the musical instruments heard. The VE-GS Pro (optional; it is provided with MC-80EX) is a sound generator module that can be installed internally in the MC-80.

Cursor

When there are multiple positions within a window for making settings changes, the cursor is used to designated which one is to be affected. The cursor buttons are pressed to move the cursor up, down, left, and right.

Quick Play

Quick Play loads and plays back only the portions of a song that are necessary for playback. It allows the user to play back songs just by selecting the song and pressing the PLAY button, without no operations to load the song from the disk necessary. This is a convenient function when only playing back songs (Quick Play can be used only for playback of songs in MC-80 format and Standard MIDI Files).

Quantize

This function corrects inconsistencies in the rhythm.

Groove Quantize

In contrast to normal Quantize, in which corrects to the precise rhythm selected, the Groove Quantize function lend certain characteristics to the rhythm to add syncopation.

Sequencer

Sequencers are electronic musical instruments that record and play back performances in discrete increments. Recorded is such information as which keys are played, the pitches used, and the length of time the keys are held down. This enables each element to be edited individually, for example, causing only the piano part to be played stronger, or deleting only a mistake in the drum performance.

Shuffle Quantize

This adds a swing sensation to the rhythm. The swing feel is achieved by adjusting the position of the upstroke.

Step Recording

This is a method for recording performance data one step at a time. This is convenient for creating Phrases the player is unable to perform in real time.

Song Play

Loading of the entire song into the MC-80 and playing it back is referred to as "Song Play." When the song is loaded, all functions, including Track Edit, Microscope Edit, Markers, Repeat, and other functions can be used.

Tap Button

The Tap Tempo function takes the tempo tapped out on the TAP button and makes that the sequencer's playback tempo. The beats tapped out using the TAP button are quarter notes.

Chain Play

This function plays back selected songs in a predetermined order, similar to the "programmed playback" function on a CD player.

Channel

In contrast to the tracks that are areas on tape recorders and sequencers where groups of data are stored, channels are used to organized the data exchanged between devices. When data is sent on from the MC-80 on one channel, the sound that is set to be played by the sound generator receiving the signal is then played.

Disk Format

Preparation of a disk to make it usable on a certain device is referred to as "formatting."

Synchronized Performance

This is synchronization of the sequencer and hard disk recorder so that they operate according to the same timing.

Track

When the MC-80 handles data, the tracks are needed to keep separate the data for various instruments, such as the piano, guitar, and so on. The MC-80 features 16 Phrase Tracks (Tempo and Beat information are stored on special Tempo and Beat Tracks created for that purpose).

Track Edit

Editing of performance data, such as deleting, copying, inserting, and so forth can be carried out on the MC-80. Microscope Editing is convenient for editing data one piece at a time, whereas the Track Edit function is intended for editing sections of data in measure units or greater.

Hard Disk

Hard disks feature rotation speeds that are comparatively higher than that of other recording devices, with storage capacity ranging from 500 MB to 2.1 GB. These are used in personal computers, hard disk recorders, and other such devices.

Pattern

Patterns reduce the amount of data consumed by using short Phrases that are created once and then played repeatedly. The MC-80 also uses the Phrase Sequence function, which not only saves on data consumption, but is a convenient function for creating songs.

Folder

Like the folders used to keep paper files in order, this is a feature heavily used in computer operating systems.

Foot Switch

Operations carried out using the MC-80's buttons can instead by performed with the options foot switch's pedal operation. Since this allows operations to be executed while both hands are occupied playing an instrument, it is very convenient.

Phrase Sequence

This is a function whereby pre-arranged Patterns are played back using the keyboard. Multiple Patterns can be played back simultaneously. Different Phrases can be played by changing the timing at which play begins, and complex polyrhythms patterns can be played, providing great effects even in live and real-time performances.

Marker

Somewhat like making notations with a pencil on the printed music, markers can be set at any desired location in a song. However, the MC-80's Marker function does not simply place Markers, but also allows playback to begin from these positions.

Microscope (Microscope Edit)

This displays in list format information regarding the kind of performance data used, as well as the timing with which the data is to be inserted. For example, with keyboard performance data (note data), the volume, gate time, and pitch information can be checked. Additionally, this data can be edited. This function is called "Microscope Edit."

Realtime Recording

This is a function for recording performances from keyboards and other instruments in a manner similar to recording with a tape recorder. The metronome provides a beat, and recordings are made in time with the click sound.

FS-5U

This is a BOSS foot switch. It can be used not only with the MC-80, but with many other devices as well.

MIDI

Short for "Musical Instrument Digital Interface," this is an international standard to allows multiple electronic musical instruments to be used together.
Any MIDI-compatible electronic musical instruments can be combined, regardless of the manufacturer (the types of MIDI messages used by compatible devices varies with the type).

MIDI Connector

The performance notes data, signal for synchronaization, and send out/recieve through this connectors. To connect the other MIDI_compatible instrument, use the MIDI cable.

OUTPUT Connectors

The click sound and sounds from the VE-GS Pro are sent out through these connectors. The MC-80 outputs sounds that are to be heard using headphones through the PHONES jack, and sounds from the VE-GS Pro are sent out from the OUTPUT connectors.

SCSI

Short for "Small Computer System Interface," this is an international common standard for the connection of disk drives and other external devices to computers. With the optional "VS4S-1" SCSI interface, the MC-80's capabilities can be expanded with SCSI devices (Zip drive).

SCSI ID

When augmented by a VS4S-1, up to seven SCSI devices can be connected to the MC-80. To keep these devices organized, the MC-80 needs to determine a separate identifying number for each device. These numbers are known as SCSI ID numbers. The SCSI IDs for such external devices are set using switches and other means.

SHUT DOWN

This prepares the MC-80 and the disk when the MC-80's power is shut off. Always carry out the SHUT DOWN procedure before turning of the MC-80's power. Failing to do this can result in damage to the disk, and may prevent the MC-80 settings from being saved correctly.

VE-GS Pro

The VE-GS Pro is a sound generator expansion module equivalent to Roland's SC-88 Pro series and SC-880.

Zip Drive

A Zip disk is magnetic media that stores 100 megabytes of data on a disk roughly the size of a floppy disk (approximately 70 times the capacity of a 2HD floppy disk). While of course used for storing data from personal computers, they are also used for external storage of data from Roland's VS-880, SP-808, and other devices.

2DD, 2HD

These indicate types of floppy disks. 2DD disks hold 720 kilobytes of data, while 2 HD disks can store 1440 kilobytes.

Specifications

■Sequencer Section

● Tracks

Phrase Tracks (16 MIDI channels per track): 16
Pattern Track (16 MIDI channels per track): 1
Tempo Track: 1
Beat Track: 1

* *A maximum of 100 patterns can be created in a song.*

● Song Data (Internal Memory)

Songs:1
Note Capacities: approx. 120,000 notes
Song Length: 9,998 measures

● Storage Media: 3.5 inch Micro Floppy Disk (2DD/2HD)

Disk Format: 720 K bytes, 1.44 M bytes
Note Storage: approx. 58,000 notes (2DD), approx. 118,000 notes (2HD)
Song Files: 99

● Resolution

480 ticks per quarter note

● Tempo

Quarter Note = 5 to 300

● Time Signatures

1/6 to 32/16, 1/8 to 32/8, 1/4 to 32/4, 1/2 to 32/2

● Recording Method

Realtime, Step

● Maximum Simultaneous Input Notes (during realtime recording)

64 notes

● Maximum Simultaneous Output Notes

64 notes

● Loadable Song Type

MC-80 Songs (MC-80, MC-80EX)
MRC Pro (XP-80, XP-60, XP-50)
Standard MIDI Files (format0)
Standard MIDI Files (format1)
SuperMRC Songs (MC-50mkII, MC-50)

● Savable Songs Type

MC-80 Songs (MC-80, MC-80EX)
Standard MIDI Files (format0)
Standard MIDI Files (format1)

● Sync Method

MIDI Clock, MTC
(compatibility with MMC)

■Sound Generator Section (MC-80EX Only)

Parts

32

● Maximum Polyphony

64 Voices

● Internal Memory

Preset Tone: 1117
Rhythm Set: 42
Preset Patch: 128

● Effects

Reverb (8 types)
Chorus (8 types)
Delay (10 Types)
2 band equalizer
Multi-effects (64 Types)

■Others

● Display

320 x 80 fulldot Matrix (Backlit LCD)

● Connectors

MIDI Connectors (in x 2, out x 2, thru)
Foot Switch Jack (Stereo Jack)
Output Jacks (Stereo)
Phones Jack

● Power Supply

AC 117 V, AC 230 V or AC 240 V

● Power Consumption

13 W

● Dimensions

358 (W) x 303 (D) x 88 (H) mm
14-1/8 (W) x 11-15/16 (D) x 3-1/2 (H) inches

● Weight

3.3 kg / 7 lbs 5 oz

● Accessories

Quick Start
MC-80 Owner's Manual
Demo Song Floppy Disk
Power-Supply Cord
VE-GSPro Owner's Manual (MC-80EX)
Multi-Effects Prameter Chart (MC-80EX)

● Options

Voice Expansion Board: VE-GSPro
SCSI Board: VS4S-1
Internal Zip Drive: ZIP-INT-1A
2.5 inch Internal Hard Drive: HDP-88 series

* *In the interest of product developement, the specifications for this* product are subject to change without prior notice.

Quick reference of displays

SONG PLAY Screen

Playing back songs or patterns (p.27)

Press [F1] (SETUP) (only SONG PLAY screen)

[F1]	(SONGNAME)	Naming a song	(p.58)
[F2]	(CPYRIGHT)	Inputting copyright data	(p.58)
[F3]	(PHRASE)	Phrase sequence settings	(p.51)
[F4]	(ARPEGGIO)	Arpeggiator settings	(p.54)
[F5]	(MARKJUMP)	Mark settings	(p.34)
[F6]	(SONGINFO)	Viewing copyright and playback time of a song	(p.37)

Press [F2] (QUANTIZE)

[F1]	(GRID)	Grid quantize	(p.81)
[F2]	(SHUFFLE)	Shuffle quantize	(p.81)
[F3]	(GROOVE)	Groove quantize	(p.83)
[F4]	(LOAD GRV)	Loading a user groove template file	(p.87)
[F5]	(SAVE GRV)	Saving a user groove template file	(p.88)

Press [F3] (TRK EDIT) *

* Press [F6] to switch between Menu 1–3

Menu 1

1. Erase	Erasing unwanted portions	(p.67)
2. Delete/Trancate	Removing unwanted portions	(p.68)
3. Copy	Copying a phrase	(p.69)
4. Insert Meas	Inserting blank measures	(p.70)
5. Transpose	Transposing the pitch	(p.71)

Menu 2

6. Chg Velocity	Modifying the volume	(p.71)
7. Chg MIDI Ch	Changing the MIDI channel	(p.73)
8. Chg Duration	Modifying the note length	(p.74)
9. Merge	Combining two phrase tracks / patterns into one	(p.74)
10. Extract	Moving a specific portion of musical data	(p.75)

Menu 3

11. Shift Clock	Moving musical data forward or backward	(p.76)
12. Data Thin	Thinning out musical data	(p.77)
13. Exchange	Exchanging phrase tracks / patterns	(p.78)
14. TimeFit	Adjusting the playback time of a song	(p.79)
15. Modify Value	Deleting blank measures	(p.79)

Press [F4] (MICRO)

		Viewing the musical data recorded in a song (MICROSCOPE screen)	(p.59)
[F1]	(CREATE)	Inserting musical data	(p.64)
[F2]	(ERASE)	Erasing musical data	(p.65)
[F3]	(MOVE)	Moving musical data	(p.65)
[F4]	(COPY)	Copying musical data	(p.66)
[F5]	(PLACE)	Pasting musical data	(p.66)
[F6]	(VIEW SW)	Selecting the data that will be displayed	(p.61)

Press [F5] (SAVE)

[F4]	(SMF 0)	Loading Standard MIDI File format 0	(p.93)
[F5]	(SMF 1)	Loading Standard MIDI File format 1	(p.93)
[F6]	(MC-80)	Loading MC-80 format	(p.93)

Press [F6] (TRK INFO/LOAD)

		Viewing the musical data within each track	(SONG
		Loading a song from disk	(QUICK

Press [SELECT]

[F1]	(DRIVE)	Selecting the drive from which a song will be loaded	(p.93)
[F2]	(SORT)	Sorting song files	(p.93)
[F3]	(VIEW SW)	Limiting the types of files that will be displayed	(p.29)
[F4]	(LOAD)	Loading a file into the MC-80	(p.93)

Press [REC]

[START/STOP] Start recording (p.43)

<Recording (mixing)>

[F5]	(Erase)	Erasing unwanted musical data while recording (Realtime Erase)	(p.44)

<Recording (Manual Punch In) >

[F6]	(PUNCH IN)	Manual punch-in recording	(p.43)

CHAIN screen

Press [F1] (CHAINTOP)

Move to the start of a chain (p.36)

Press [F2] (WAIT)

Pause after the currently-playing song ends (p.36)

Press [F3] (ALL RPT)

Repeat chain playback (p.36)

Press [F4] (LOAD CHAIN)

Load a chain file (p.36)

Press [F5] (SAVE CHAIN)

Save a chain file (p.36)

Press [F6] (EDIT)

[F1]	(INFO)	View the location within the song	(p.36)
[F3]	(INSERT)	Song select window for adding songs to a chain	(p.36)
[F4]	(DELETE)	Delete the song at the cursor location	(p.36)
[F5]	(CLEARALL)	Delete all songs	(p.36)
[F6]	(WAIT)	Add a step that will pause playback	(p.36)
	[SELECT]	Song select window for adding songs to a chain	

All screen

Press [TRANSPOSE]

Transpose entire song (p.31)

Press [TEMPO]

Modify the tempo of the entire song (p.30)

Press [TAP]

Tempo settings using the tap button (p.30)

Press [SELECT]

Selecting a song (p.28)

TOOLS screen

Press [F1] (SYSTEM)

[F1]	(DISPLAY)	Adjust the brightness of the display	(p.106)
[F2]	(OPTION)	SMF Format 0 load settings	(p.95)
[F3]	(FOOT SW)	Foot switch settings	(p.107)
[F4]	(LOAD CFG)	Load configuration file	(p.106)
[F5]	(SAVE CFG)	Save configuration file	(p.106)
[F6]	(SHUTDOWN)	Prepare for Shutdown	(p.106)

Press [F2] (METRONOME)

Metronome settings (p.108)

Press [F3] (MIDI)

[F1]	(SETUP)	Connections to MIDI or expansion boards	(p.23)
[F2]	(INPUT SW)	MIDI data reception enable/disable	(p.108)
[F3]	(SYNC)	Synchronization with other devices	(p.119)
[F6]	(EXPBOARD)	Expansion board demo song playback	(p.112)

Press [F4] (SONG CLR)

Initialize the internal song (p.39)

Press [F5] (DISKUTIL)

FILE MENU

[F1]	(COPY)	Copy a disk file	(p.95)
[F2]	(DELETE)	Delete a disk file	(p.96)
[F3]	(MOVE)	Move a disk file to another folder	(p.96)
[F4]	(RENAME)	Rename a file	(p.97)
[F5]	(FOLDER)	Create a folder	(p.97)
[F6]	(MENU)	View the contents of the DISK MENU	

DISK MENU

[F1]	(DRIVE)	View disk information	(p.98)
[F2]	(LABEL)	Name a disk	(p.98)
[F3]	(DISKCOPY)	Copy a disk	(p.98)
[F4]	(FORMAT)	Initialize a disk	(p.99)
[F6]	(MENU)	View the contents of the FILE MENU	

Press [F6] (HELP)

[F1]	(CANCEL)	Return to the SONG PLAY screen	(p.22)
[F2]	(UP)	View top of list	(p.22)
[F3]	(DOWN)	View bottom of list	(p.22)
[F6]	(SELECT)	View an explanation for the selected item	(p.22)

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LEBANON
A. Chahine & Fils
P.O. Box 16-5857 Gergi Zeidan St. Chahine Building, Achrafieh
Beirut, LEBANON
TEL: (01) 335799

OMAN
OHI Electronics & Trading Co. LLC
P.O. Box 889 Muscat
Sultanate of OMAN
TEL: 959085

QATAR
Badie Studio & Stores
P.O. Box 62,
DOHA QATAR
TEL: 423554

SAUDI ARABIA
aDawliah Universal Electronics APL
P.O. Box 2154 ALKHOBAR 31952,
SAUDI ARABIA
TEL: (03) 898 2081

SYRIA
Technical Light & Sound Center
Khaled Ibn Al Walid St.
P.O. Box 13520
Damascus - SYRIA
TEL: (011) 2235 384

TURKEY
Barkat Muzik aletleri ithalat ve ihracat limited ireketi
Siraselviler Cad. Billurcu Sok.
Mucadelle Cikmeze No. 11-13
Taksim. Istanbul. TURKEY
TEL: (0212) 2499324

U.A.E.
Zak Electronics & Musical Instruments Co.
Zabeel Road, Al Sherooq Bldg., No. 14, Grand Floor DUBAI
U.A.E.
P.O. Box 8050 DUBAI, U.A.E.
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NORTH AMERICA

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Roland Corporation U.S.
5100 S. Eastern Avenue
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U. S. A.
TEL: (323) 890 3700

As of June 11, 1999

For EU Countries

CE This product complies with the requirements of European Directives EMC 89/336/EEC and LVD 73/23/EEC.

For the USA

FEDERAL COMMUNICATIONS COMMISSION
RADIO FREQUENCY INTERFERENCE STATEMENT

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Unauthorized changes or modification to this system can void the users authority to operate this equipment.
This equipment requires shielded interface cables in order to meet FCC class B Limit.

For Canada

NOTICE

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

AVIS

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

Roland®

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